

Sewall Wetland Consulting, Inc.

Phone: 253-859-0515

Fax: 253-852-4732

SNOHOMISH COUNTY PARKS DEPARTMENT WELLINGTON HILL PARK SNOHOMISH COUNTY REVISED CRITICAL AREAS REPORT

Prepared For:

Snohomish County Parks & Recreation 6705 Puget Park Drive Snohomish, Washington 98296

Attn: James Yap

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Sewall Wetland Consulting, Inc.

27641 Covington Way SE #2 Covington, WA 98042 253-859-0515



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1.0 INTRODUCTION

This report describes our observations of any jurisdictional wetlands, streams and buffers on or within 300' of the proposed Wellington Hill Park project (Parcels #27053500300100, 200, 300, 400, 500, 600 & 27053500301300, 2200, 2100 and 2000) located along 240th Street SE in unincorporated Snohomish County, Washington (the "site").



Vicinity Map

In addition, the site review also included the right-of-way of 240th Street from the main body of the site to Snohomish Woodinville Road, and also eats of the park to 75th Avenue SE.

The site is located in a portion of Section 35, Township 27 North, Range 5 East of the Willamette Meridian in Snohomish County, Washington.

The site contains the Wellington Hills Golf Course, as well as undeveloped forested areas to the north, west and the east. Several golf course structures, club houses, maintenance garage as well as several residential structures are found on the site. The golf course has been in existence since the early 1930's and substantial landscape modification of vegetation, soils and drainage associated with the golf course has occurred.

2.0 METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site between March, April, May, August and September of 2012. The site was reviewed using methodology described in the *Washington State Wetlands Identification Manual* (WADOE, March 1997). This is the methodology currently recognized by the Snohomish County and the State of Washington for wetland determinations and delineations. The site was also inspected using the methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the *Western Mountains, Valleys and Coast region Supplement (Version 2.0)* dated June 24, 2010, as required by the US Army Corps of Engineers. Soil colors were identified using the 1990 Edited and Revised Edition of the *Munsell Soil Color Charts* (Kollmorgen Instruments Corp. 1990).

The Washington State Wetlands Identification and Delineation Manual and the Corps of Engineers Wetlands Delineation Manual/Regional Supplement all require the use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

Following delineation of the wetlands on the site, the flags were surveyed by Snohomish County Department of Public Works. (see attached "Wellington Hills Topographic Basemap" plan set).

3.0 OBSERVATIONS

3.1 Existing Site Documentation

Prior to visiting the site a review of several natural resource inventory maps was conducted. Resources reviewed included the NRCS on-line Soils Survey, Snohomish County website with sensitive areas layers activated, the National Wetlands Inventory, WDNR FPARS stream mapping website, and the Washington Department of Fish and Wildlife Priority Habitats on-line mapping system.

3.1.1 Soil Survey

According to data on file with the NRCS Soil Survey, the entire area of the site is mapped entirely as Alderwood soils between 0% and 25% slopes (Map units 1,2 &3).



Soil Map of the site

Alderwood soils are moderately well drained soils formed in glacial till and are not considered wetland or hydric soils. However, small inclusions of hydric soil can be found within Alderwood mapped areas.

3.1.2 National Wetlands Inventory

According to the National Wetlands Inventory there are no wetlands on or in close proximity to the site.



National Wetlands Inventory map

3.1.3 Snohomish County SnoScape website

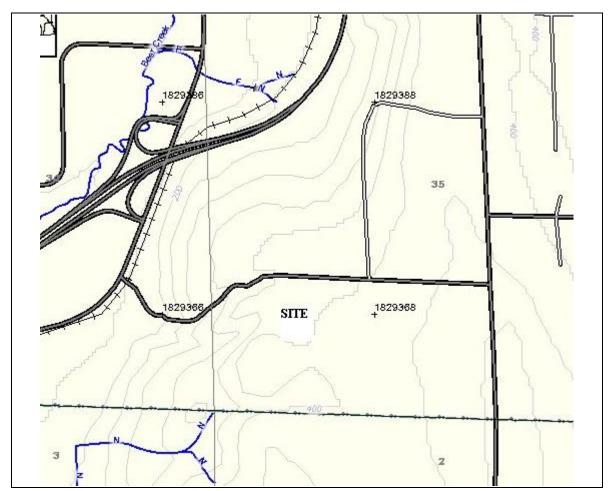
The Snohomish County SnoScape mapping website, there are three (3) streams identified on the site. The northern stream is identified as Parson Creek, and the southern stream, is identified as Vintage Creek. The center stream has no identifying name.



Above: Snohomish County SnoScape website map of the site

3.1.4 WDNR Fpars Website

According to the WDNR Fpars website which depicts known streams, no streams or waterbodies are located on the site. There is a Type N stream depicted southwest of the site in the vicinity of where Vintage Creek crosses off-site to the south.



Above: WDNR Fpars Website Map of the site.

3.1.5 WDFW Priority Habitat Website Map

According to the WDFW Priority Habitat Website with Public access layers activated, there are no priority habitats or species occurrences known on or near the site. The closest identified feature is Bear Creek located approximately 1500' west of the site



Above: WDFW Priority Habitat map of the site.

3.2 Field Observations

3.2.1 Uplands

As previously described, the site is an existing developed golf course. This takes up the majority of the site and is an area with a rolling landscape that has been highly modified in both vegetation, soils and drainage. Parcel #27053500301300 (northeast corner of site) consists of an existing single family home with a large barn south of the home. The remainder of this parcel is mowed lawn and pasture as well as small patches immature douglas fir trees along the border of the parcel. To the east, an immature deciduous forest is present. This area is comprised of a mix of red alder, black cottonwood, douglas fir and bitter cherry in the overstory. The understory in this area is salmonberry, sword fern, red elderberry, Indian plum and a dense layer of Himalayan blackberry. Soil pits excavated within this area revealed high chroma, dry gravelly loam soils with no hydric characteristics. No wetlands or streams were observed within or adjacent to the 240th Street SE right-of-way, except Wetland J.

Other forested areas on the site are also found to the west and north, where a more mature mixed forest is present. These areas are vegetated with big leaf maple, douglas fir,

western hemlock, and western red cedar. Understory species here include Himalayan blackberry along the edges, red elderberry, vine maple, sword fern, stinging nettle, bracken fern, and hazelnut.

One unusual feature of this upland in the northwest portion of Sheet S-1 is a large 5'dbh western white pine (*Pinus monticola*). This was the only pine observed and appears to be a remnant large tree that was not logged many years ago.

3.2.2 Wetlands

A total of eleven (11) wetlands were found on the site as well as 3 stream drainages. The following is a description of these wetlands and streams, *please note that due to a labeling error, there is no wetland "A"*;

Wetland B

Wetland B is a small slope type wetland located along the South side of Vintage Creek just west of the active golf course in a pasture area. This wetland was flagged with flags B1-B7. This emergent wetland is 1,651sf in size and is dominated by creeping buttercup.

Soil pits excavated within the wetland edge revealed a dark (10YR 2/1) gravelly loam material. Soils were saturated during our site visits to this area.

Wetland B contains areas that would be classified as PEM1E (palustrine, emergent, persistent, seasonally flooded/saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, this slope wetland scored a total of 23 points with 12 points for habitat. This indicates a Category 4 wetland. According to Snohomish County Code Chapter 30.62A.320, Category 4 wetlands with a low habitat score with a high intensity land use is 50'. This can be reduced to 40' by employing the following mitigation measures;

Table 5 - Mitigation Measures for High Intensity Land Uses

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	Parking lots Warehouses Manufacturing Residential	Direct lights away from wetland
Noise	Manufacturing Residential	Locate activity that generates noise away from the wetland
Toxic runoff*	Parking lots Roads Manufacturing Residential areas	Route all new untreated runoff away from wetland while ensuring that wetland is not dewatered Establish covenants governing use of
	Landscaping	pesticides within 150 feet of wetland • Apply integrated pest management
Stormwater runoff	Parking lots Roads Manufacturing Residential areas Commercial Landscaping	Retrofit stormwater detention and treatment for roads and existing adjacent development Prevent channelized flow from lawns that directly enters buffer
Change in water regime	Impermeable surfaces Lawns Tilling	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surface and new lawns
Pets and human disturbance	Residential areas	Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract
	uples are not necessarily adequated species are present at the site.	te for minimizing toxic runoff if threatened or

endangered species are present at the site.

Wetland C

Wetland C is a small depressional type wetland located along the south property line and consists of a highly disturbed area bordering the maintained golf course. Residential yards are located south of the wetland and significant ditching and berm construction has historically occurred in the wetland. This wetland was flagged with flags C1-C6. This shrub dominated wetland is 3,372sf in size and is vegetated with a mix of sitka willow, Himalayan blackberry, soft rush, lady fern, and creeping buttercup. Ditches within this wetland drain to Vintage Creek to the north where it passes into a culvert under the golf course.

Soil pits excavated within the wetland edge revealed a dark (10YR 3/2) gravelly loam material with redoximorphic concentrations. Soils were saturated during our site visits to this area.

Wetland C contains areas that would be classified as PSS1C (palustrine, scrub-shrub, broad leaved deciduous, seasonally flooded), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, this depressional wetland scored a total of 30 points with 10 points for habitat. This indicates a Category 3 wetland. According to Snohomish County Code Chapter 30.62A.320, Category 3 wetlands with a low habitat score with a high intensity land use is 80'. This can be reduced to 60' by employing the mitigation measures previously described for Wetland B on page 9.

Wetland D

Wetland D is a forested depressional wetland located next to the gravel driveway to the clubhouse near the center of the site. This wetland was flagged with flags D1-D12. This wetland is approximately 6,122sf in size and dominated by immature red alder in the overstory, and salmonberry and lady fern in the understory.

Soil pits excavated within the wetland edge revealed a dark (10YR 3/2) gravelly loam material with redoximorphic concentrations. Soils were saturated during our site visits to this area.

Wetland C contains areas that would be classified as PFO1C (palustrine, forested, broad leaved deciduous, seasonally flooded), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, this depressional wetland scored a total of 35 points with 13 points for habitat. This indicates a Category 3 wetland. According to Snohomish County Code Chapter 30.62A.320, Category 3 wetlands with a low habitat score with a high intensity land use is 80°. This can be reduced to 60° by employing the mitigation measures previously described for Wetland B on page 9.

Wetlands E, F and G

Wetlands E, F and G are similar slope wetlands found along the sides of Stream B, which is an unnamed intermittent stream located near the western central portion of the site. These three wetlands are all found along steep, sloping sides of a ravine that borders this stream. Wetland E (1,441sf) is located at the start of the drainage and is more disturbed than F (1,803sf) and G (6,600sf) as there is an old earthen roadbed/dam over the wetland and the water from Stream E collects in a pipe and passes through the berm near the wetlands western edge.

Vegetation found within these wetlands includes red alder, salmonberry, lady fern and skunk cabbage. All these wetlands have a mix of clay and muck soils that seep towards Stream B and provide a hydrologic input to this wetland.

Wetlands E, F and G would be classified as PFO1B (palustrine, forested, broad leaved deciduous, saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, all wetlands were scored as "slope type wetlands". Wetland E received a total score of 34 points with 12 for habitat, and Wetlands F and G received 31 total points with 14 for habitat. All of these wetlands score as Category 3 wetlands. According to Snohomish County Code Chapter 30.62A.320, Category 3 wetlands with a low habitat score with a high intensity land use is 80'. This can be reduced to 60' by employing the mitigation measures previously described for Wetland B on page 9.

Wetlands H & I

Wetland H (approximately 18,000sf) and I (11,505sf) form the headwaters of Parson Creek and consists of hillside seep slope type wetlands that form and drain into the forked headwater channels of the creek. Wetland H was flagged with flags H1-HH13, and Wetland I with flags I1-I13. Both wetlands are forested with alder as the dominant tree and the understory of salmonberry, devils club, lady fern and skunk cabbage. Soils are sapric muck which seep water to the west into Parson Creek.

Wetlands H and I would be classified as PFO1B (palustrine, forested, broad leaved deciduous, saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, both wetlands were scored as "slope type wetlands". Wetland H received a total score of 32 points with 21 for habitat, and Wetland I received 43 total points with 19 for

habitat. Both of these wetlands score as Category 3 wetlands. However, their buffers are different due to the fact that Wetland H had >20 habitat points.

Category 3 wetlands with a low habitat score such as Wetland I with a high intensity land use have a buffer of 80°. This can be reduced to 60° by employing the mitigation measures previously described for Wetland B on page 9. Wetland H has a habitat score >20 points, and for a high intensity land use, the standard buffer is 150°. This can be reduced to 110° by employing the mitigation measures previously described for Wetland B on page 10.

Wetland J

Wetland J is a small (609sf) isolated wetland located in a depression between 240th street and a cart path on the golf course. This small emergent wetland was flagged with flags J1-J5 and is dominated by creeping buttercup.

Soils are a black, gravelly loam that had several inches of standing water within its boundaries when we delineated the wetland.

Wetland J contains areas that would be classified as PEM1E (palustrine, emergent, persistent, seasonally flooded/saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, this wetland scored a total of 23 points with 7 points for habitat. This indicates a Category 4 wetland. According to Snohomish County Code Chapter 30.62A.320, Category 4 wetlands with a low habitat score with a high intensity land use is 50'. However, Wetland J is a Category 4 wetland that is <10,000sf. As a result, this wetland can be filled using BMP measures to mitigate for any lost functions.

Wetland K

Wetland K is a small (870sf) isolated wetland located in a shallow disturbed depression immediately behind the clubhouse and west of Wetland D. This small emergent wetland was flagged with flags K1-K6 and is dominated by velvet grass, bentgrass and creeping buttercup.

Soils are a dark (10YR 2/2), gravelly loam with depletions present below a 6" depth. Soils were moist during our August site visit.

Wetland K would be classified as PEM1E (palustrine, emergent, persistent, seasonally flooded/saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, this wetland scored a total of 21 points with 7 points for habitat. This indicates a Category 4 wetland. According to Snohomish County Code Chapter 30.62A.320, Category 4 wetlands with a low habitat score with a high intensity land use is 50'. However, Wetland K is a Category 4 wetland that is <10,000sf. As a result, this wetland can be filled using BMP measures to mitigate for any lost functions.

Wetland L

Wetland L is a 4,165sf emergent wetland located within the middle of the fairway on the north side of the site. This wetland was flagged with flags L1-L11. A shallow ditch drains through the fairway to a point approximately 75' north of the wetland where it enters a small buried pipe. This drains underground to the north discharging into a ditch that eventually drains to Parson Creek.

Wetland L is vegetated with a mix of rushes (*Juncus effuses and J. tenuis*) as well as bentgrass and velvet grass.

Wetland L would be classified as PEM1E (palustrine, emergent, persistent, seasonally flooded/saturated), using the US Fish and Wildlife Wetland Classification methodology (Cowardin et al. 1979).

Using the Department of Ecology's Wetland Rating Form for Western Washington (WADOE Version 2, updated July 2006 & October 2008) as required by Snohomish County, Wetland L was scored as "depressional type wetland". Wetland L received a total score of 34 points with 12 for habitat.

Category 3 wetlands with a low habitat score such as Wetland L with a high intensity land use have a buffer of 80°. According to Snohomish County Code Chapter 30.62A.5103.g, non-riparian Category 3 wetlands that are <5,000sf can be filled using BMP measures to mitigate for any lost functions.

3.2.3 Streams

The site contains three (3) stream channels which all drain to the west off the property. The northern stream is known as Parson Creek, the center stream is has no name but will be called Stream B in this report, and the southern stream is known as Vintage Creek (aka stream A).

Stream A-Vintage Creek

Stream A is an intermittent stream that forms just south of the site within an off-site forested wetland. The ordinary high water mark of this creek was flagged with white and blue flagging labeled AN1-AN28 and AS1-AS35. This stream flows along the southern boundary of the site, prior to going through several culverts and emerging onto the site in the golf course. The stream then passes through a water feature/pond in the golf course before entering a culvert. It flows westerly in this culvert under the golf course for approximately 400' prior to re-emerging in an open channel. The channel passes through a small pasture area before entering a steeper, forested ravine where the stream flows off-site to the southwest. The stream then enters a culvert system that passes under portions of the City and eventually enters Bear Creek. These streams, as shown on the Fpars website, are known to be Type N waters, which are intermittent and do not contain fish due to long culvert connections and steep topography.

As described in SCC Chapter 30.62A.320, this stream best meets the criteria of a seasonal Type N water, also called a Type Ns stream. Type NS streams typically have a 50' buffer measured from the OHWM of the stream.

Stream B

Stream B is another small intermittent stream that originates in Wetland E and drains westerly through a steep forested ravine. This intermittent, mud lined channel was flagged with OHWM flags CE1-CE18 and CW1-CW18.

This stream is similar to Stream A in character and passes down a steep hillside through several cascades and small falls before passing into a culvert. This culverted section is approximately 1,500' long before it discharges into Bear Creek to the west.

This stream best meets the criteria of a seasonal Type N water, also called a Type Ns stream as described in SCC Chapter 30.62A.320. Type NS streams typically have a 50' buffer measured from the OHWM of the stream.

Stream C – Parson Creek

Parson Creek originates in wetlands H and I located along the northeast side of the site bordering 71st Drive SE. The upper portions of the channel are narrow, steep stream beds that merge into a channel that goes from 1' in width to approximately 8' in widths as the stream gets larger to the west. The portions of the channel in the vicinity of Wetland I and the upper half of H are steep with a mix gravel and mud/peat bottom. As the channel proceeds west from Wetland H it becomes a wider gravel bottom channel with flow approximately 2-4" deep. Storm drainage from the golf course as well as 240th Street and 71st also discharge into this feature through Wetland I as well as small side channels to

the south that come off the golf course drainage system. The storm drainage discharge points creating flashy stream flows during rain events.

This stream is depicted on the WDNR Fpars map as being fish bearing to the west of Woodinville-Snohomish Road. A fish blockage is shown just west of the railroad tracks approximately 700' west of the site. This area appears to be within the Brightwater plant property. The channel is shown as a Type N stream above this blockage and up to the site.

We have not seen the lower portion of the channel west of Wetland H dry, although all of the channels above this do appear to go dry and it is likely the lower portion does also. This stream and its small tributary side channels best meets the criteria of a seasonal Type N water, also called a Type Ns stream as described in SCC Chapter 30.62A.320. Type NS streams typically have a 50' buffer measured from the OHWM of the stream.

3.2.4 State and Federally Listed Species

A review of the site was conducted to determine if there are any state or federally listed species on or near the site. The WDFW Priority Habitat System data bank returned no listed species on or near the site. During our observations of the site we did not encounter or see any state or federally listed species, nor were any specific or special habitats noted that would provide habitat for any state or federally listed species.

The site has large forested areas bordering the golf course, and these provide habitat to many common species of wildlife found in this area which is generally suburban in character. However, given the degree of disturbance and isolation of the site, it is unlikely any rare or unusual species would be found on the site.

4.0 FUNCTIONS AND VALUES

Wetland C, D, J, K & L have relatively low function due to the amount of past disturbance and their small size. The remaining wetlands are slope type wetlands that provide hydrologic support to the streams on the site. These in turn provide water to Bear Creek, a fish bearing water, located off-site to the west. In addition, these wetlands are also located within steep slope areas that are forested and provide habitat to many species of wildlife utilizing these forested areas of the site.

5.0 REGULATIONS

In addition to the wetland regulations previously described for wetlands and streams, certain activities (filling and dredging) within "waters of the United States" may fall under the jurisdiction of the US Army Corps of Engineers (ACOE). The ACOE regulates

all discharges into "waters of the United States" (wetlands) under Section 404(b) of the Clean Water Act.

Due to the increasing emphasis on Endangered Species Act compliance for all fills of Waters of the United State and Waters of the State, both the Corps of Engineers and Washington Department of Ecology should be contacted regarding permit conditions, compliance, and processing prior to commitment to any fill of wetlands or streams for this project.

6.0 PROPOSED PROJECT

The proposed project is the construction of a County Park with a variety of recreational ball fields and associated infrastructure. Due to the existing hilly topography of the former golf course, only certain areas will allow placement of ball fields with a reasonable amount of grading. Given the layout of the Park, as well as required road widening of 240th, impacts to three wetlands, Wetlands J (609sf), Wetland D (6,122) and Wetland K (870sf) are proposed. This amounts to a total amount of fill of 7,601sf of Category 3 and 4 wetland. As mitigation, a total of 17,845sf of wetland will be created. In addition 750' of Type N water that currently is piped under the existing golf course, will be day lighted and a new stream channel created, greatly improving the condition of this tributary stream.

As described in SMC 30.62A.310.3;

- (a) The project proponent shall make all reasonable efforts to avoid and minimize impacts to wetlands, fish and wildlife habitat conservation areas, and buffers in the following sequential order of preference:
- (i) avoiding impacts altogether by not taking a certain action or parts of an action; or;

Avoidance of the impact is not possible without eliminating several ball fields which greatly reduces the overall design of the park.

(ii) when avoidance is not possible, minimizing impacts by limiting the degree or magnitude of the action and its implementation, using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts; and mitigating for the affected functions and values of the critical area;

Not applicable, the site has physical characteristics and topography that limit the construction of ballfields to only those areas shown on the plan. As mitigation for 7,601sf of wetland, a total of 17,845sf of wetland will be created. In addition 750' of Type N water that currently is piped under the existing golf course, will be day lighted

and a new stream channel created, greatly improving the condition of this tributary stream.

- (b) When mitigation is required it shall be conducted in accordance with the following requirements:
- (i) mitigation location. Unless otherwise provided in this chapter, mitigation for impacts to the functions and values of wetlands, fish and wildlife habitat conservation areas and buffers shall be in-kind and on-site. Off-site mitigation may be approved only in those situations where appropriate and adequate on-site mitigation cannot replace the function(s) of the wetlands, fish and wildlife habitat conservation area(s) or buffers at an equivalent level to the off-site location. Off-site mitigation must occur in the same subdrainage basin for streams, lakes and wetlands, or drift cell for marine waters;

Mitigation is on-site and in-kind as is preferred.

(ii) mitigation timing. Mitigation shall be completed prior to granting of final building occupancy, or the completion or final approval of any development activity or action requiring a project permit for which mitigation measures have been required, except as set forth in chapter 30.84 SCC; and

Mitigation work will be conducted during the construction of the project and follow this requirement.

(iii) function replacement. Unless otherwise provided in this chapter, functions and values shall be replaced at a one to one ratio;

30.62A.340 Standards and requirements for activities conducted in wetlands.

Table 30.62.340 - Table 4

Wetlands Migrations Ratios

Category/Type of Wetland	Creation	Enhancement¹
All Category IV	1.5:1	3:1
All Category III	2:1	4:1

The impacts proposed from this project as well as the required mitigation areas are as shown below;

Wetland	Impact	Required Creation
D	6122sf	12244sf
J	609sf	914sf
K	870sf	1305sd
Total	7601sf	14463sf

The project is exceeding the required wetland creation ratios by creating 17,845sf of wetland. The proposed creation area will be to expand Wetland C to the north by excavating to intercept the surficial groundwater table. Preliminary monitoring f the water table in the area of the proposed creation has shown that groundwater is shallow, and is persistent long enough to create wetland. This wetland will be excavated along side the newly created stream channel, which will remove approximately 750' of piped Type N water. This new channel will be graded out, a gravel bottom substrate will be installed as well as dense woody plantings along the channel and buffer to shade and protect the stream.

The proposed mitigation will be monitored for 5 years as required by Code.

If you have any questions regarding this report, please call us at $(253)\ 859-0515$ or at esewall@sewallwc.com .

Sincerely,

Sewall Wetland Consulting, Inc.

Ed Sewall

Senior Wetlands Ecologist PWS #212

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Forested area SE side of site

	Ling by City/County: 5 ~	
plicant/Owner: Suchumida Cor	Parks	State: Sampling Point: DP#
estigator(s): EL Sewall	Section, Township, Ra	ange: 535 T 27N RSE
		. convex, none): Slope (%):
region (LRR):	e 4	NWI classification:
climatic / hydrologic conditions on the site typical fi		(If no, explain in Remarks.)
Vegetation Soil or Hydrology	significantly disturbed? Are	"Normal Circumstances" present? Yes No
Vegetation Soil or Hydrology	naturally problematic? (If n	needed, explain any enswers in Remarks.)
MMARY OF FINDINGS - Attach site n	nap showing sampling point	locations, transects, important features, etc
vdrophytic Vegetation Present? Yes		nd Area
ydric Soil Present? Yes	No within a Wetla	
etland Hydrology Present? Yes	No	
GETATION - Use scientific names of	Absolute Dominant Indicator % Cover Species? Status	Number of Business Services
Populas babante	75 P76	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
		Total Number of Dominant Species Across All Strata: (B)
		Percent of Dominant Species 44./
apling/Shrub Stratum (Plot size:)	= Total Cover	That Are OBL, FACW, or FAC: (A/B)
Demlaria custon	nj 30 Facu	Prevalence Index worksheet:
Trubus spretubits	70 FAC	
Rubus do later	30 FALL	
		FACW species x 2 = FAC species x 3 = FAC species
	= Total Cover	FACU species x 4 =
erb Stratum (Plot size:)		UPL species x 5 =
Puly it cha mr. H.	<u> </u>	Column Totals: (A) (B)
,		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		Dominance Test is >50%
		Prevalence Index is ≤3.0
		Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
		Wetland Non-Vascular Plants ¹
)		Problematic Hydrophytic Vegetation [†] (Explain)
		'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= Total Cover	,
1		
1		Hydrophytic
1		Hydrophytic Vegetation
1	v Total Cover	

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Profile Description: (Describe to the dej		
·	oth needed to document the indicator or confirm	n the absence of indicators.)
Depth Matrix	Redox Features Color (moist) % Type3 Loc2	Texture Remarks
(inches) Color (moist) %		Texture Remarks
16 7.542 Z/Z		
		,

	≈Reduced Matrix, CS≂Covered or Coated Sand G	
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	•
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:	******	
Depth (inches):	*********	Hydric Soil Present? Yes No
Remarks:		
,		
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require		
	d; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	d; check all that apply) Water-Stained Leaves (B9) (except ML	
Surface Water (A1) High Weter Table (A2)		
1 —	Water-Stained Leaves (B9) (except ML	RA Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B)	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B)
High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Selt Crust (B11)	RA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Selt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4)	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (O3) FAC-Neutral Test (D5)
High Water Table (A2) Sabtration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aqualic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solts (C Stunted or Stressed Plants (D1) (LRR A	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (O3) FAC-Neutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Sell Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Petterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (6	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Sell Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Petterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (6 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present?	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Self Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Sturted or Stressed Plants (D1) (LRR # 07) Other (Explain in Remarks) No Depth (inches):	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Petterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
High Water Table (A2) Sabtration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Self Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solts (C Stunted or Stressed Plants (D1) (LRR A 7) Other (Explain in Remarks) No Depth (inches):	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
High Water Table (A2) Sabration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (f Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Selt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A 67) Other (Explain in Remarks) No Depth (inches): Bepth (inches):	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Petterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Reised Ant Mounds (D6) (LRR A)
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High Water Table (A2) Sabtration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (f Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, n	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Selt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A (B3) No Depth (inches): Bepth (inches): Wet	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Resed Ant Mounds (D8) (LRR A) Frost-Heave Hummocks (D7)
High Water Table (A2) Sabration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (f Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Golding Present? Yes Solutration Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, n	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Selt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A (B3) No Depth (inches): Bepth (inches): Wet	RA Water-Stained Leaves (89) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5) Resed Ant Mounds (D8) (LRR A) Frost-Heave Hummocks (D7)

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Nother side of Freshol wer enst of Paky lot

roject/Site: Sauhu Pau	hr - We	Alta true	City/County: 5 ~	whim's h Co	Sampling Date: 3 - /
5)4CCON4	1			State: مرسل	
~ ~ ~ · · · · · · · · · · · · · · · · ·	~~ II		Castles Township Pr	ange: 535 T	ZTN REE
-					Slop# (%):
ndform (hillslope, terrace, etc.):		1 -4-	Local relief (concave)	Loog:	Datum:
bregion (LRR):	Jana			NWI classifi	
il Map Unit Name:					
e climatic / hydrologic conditions on t				"Normal Circumstances"	
e Vegetation soil or				eeded, explain any answe	
e Vegetation, Soil, or				, ,	
UMMARY OF FINDINGS - A	Attach site m	ap showing	sampling point	locations, transects	s, important features, etc
Hydrophytic Vegetation Present?	Yes	No /	Is the Sample	4.4	
Hydric Soil Present?	Yes		within a Wetla		No -
Wetland Hydrology Present?	Yes	_ No	Widnit & Trend		
Remarks;					
EGETATION - Use scientific	c names of p		Dominant Indicator	Dominance Test wor	ksheet:
Tree Stratum (Plot size)		Species? Status	Number of Dominant S	Species
			<u>~~</u>	That Are OBL, FACW,	or FAC:(A)
				Total Number of Domi	
3				Species Across All Str	eta: <u>5</u> (8)
4			= Total Cover	Percent of Dominant S That Are OBL, FACW.	
Sapling/Shrub Stratum (Plot size:)				
. I'llem beet a.			D-4-6-3	The same of the sa	
			FACU	Prevalence Index wo	
2				Total % Cover of:	Multiply by:
3				OBL species	Multiply by:
3				Total % Cover of: OBL species FACW species	Multiply by:
2				Total % Cover of: OBL species FACW species FAC species	
2. 3. 4. 5. Herb Stratum (Plot size:)			Total % Cover of: OBL species FACW species FAC species FACU species UPL species	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 =
2. 3. 4. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.)		= Total Cover	Total % Cover of: OBL species FACW species FAC species FACU species UPL species	Multiply by: x 1 = x 2 = x 3 = x 4 =
2. 3. 4. 5. Herb Stratum (Plot size:			= Total Cover	Total % Cover of: OBL species FACW species FAC species FACU species UPL species	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B)
der Stratum (Plot size:	in with		= Total Cover FAC , Up1	Total % Cover of: OBL species FACW species FAC species FACU species UPL species Column Totals:	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B)
derb Stratum (Plot size:	in the		= Total Cover FAC ,UPI	Total % Cover of: OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Inde	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B) x = BIA = ion indicators:
2. 3. 4. 5. Herb Stratum (Plot size: 2. 2. 2. 4. 5.	in it.		= Total Cover FAC ,UPI	Total % Cover of. OBL species FACW species FAC species FAC species Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Index	Multiphy by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B) x = BIA = ion indicators: s > 50% is \$3.0°
derb Stratum (Plot size:	en ariting		= Total Cover	Total % Cover of. OBL species FACW species FAC species FAC species VPL species UPL species Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test in Prevalence Index Morphological Ad	Multiply by: x 1 = x 2 = x 3 = x 4 = (A) (B) x = BIA = ion indicators: > 50% is 43.0' aptations' (Provide supporting
Herb Stratum (Plot size: 1 2 3 4 4 5 6 6 7	fariti-		= Total Cover	Total % Cover of. OBL species FACV species FAC species FAC species Column Totala: Prevalencs Inde Hydrophytic Vegetat Dominance Test I Prevalence Index Morphological Addata in Remarl	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B) x = B/A = on indicators: s > 50% is \$3.0" aptations' (Provide supporting so or on a separate sheet)
2	d uit		= Total Cover	Total % Cover of. OBL species FACW species FACU species FACU species Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Inde Morphological Ad data in Remarl	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B) x = B/A = on indicators: s > 50% is \$3.0" aptations' (Provide supporting so or on a separate sheet)
derb Stratum (Plot size:	in it is		= Total Cover	Total % Cover of. OBL species FACW species FAC species FAC species Column Totala: Prevalencs Inde Hydrophytic Vegetat Dominance Test I Prevalence Index Morphological Addata in Remari Wetland Non-Vasa 'indicators of hydric as	Multiply by: x 1 =
2.	in it is		= Total Cover	Total % Cover of. OBL species FACW species FAC species FAC species Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Index Mapphological Addata in Reman Wetland Non-Vas Problematic Hydro	Multiply by: x 1 =
2	Justina de la constantia de la constanti		= Total Cover	Total % Cover of. OBL species FACW species FAC species FAC species Column Totala: Prevalencs Inde Hydrophytic Vegetat Dominance Test I Prevalence Index Morphological Addata in Remari Wetland Non-Vasa 'indicators of hydric as	Multiply by: x 1 =
2. 3. 4. 5. 5. 5. 5. 6. 6. 7. 8. 8. 9. 10. 11. Woody Vine Stratum (Plot size:	Justina de la constantia de la constanti		= Total Cover	Total % Cover of. OBL species FACW species FAC species FAC species Column Totals. Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Index Morphological Ad data in Remar Wetland Non-Vas Problematic Hydro Indicators of hydric as be present, unless dis Hydrophytic	Multiply by: x 1 =
2 3 4 5 Herb Stratum (Plot size: 1. Pub Sharing (Plot size: 2 Pub Sharing (Plot size: 1. Pub Sharing (Plot size:	in the second		* Total Cover	Total % Cover of. OBL species FACW species FAC yspecies FAC yspecies Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Inde Morphological Ad data in Remari Wetland Non-Vas Problematic Hydri 'Indicators of hydric a- ba present, unless dis Hydrophytic Vegetation	Multiply by: x 1 =
2. 3. 4. 5. Herb Stratum (Plot size: 1.	quitte		* Total Cover	Total % Cover of. OBL species FACW species FAC yspecies FAC yspecies Column Totals: Prevalence Inde Hydrophytic Vegetat Dominance Test I Prevalence Inde Morphological Ad data in Remari Wetland Non-Vas Problematic Hydri 'Indicators of hydric a- ba present, unless dis Hydrophytic Vegetation	Multiphy by: x 1 = x 2 = x 3 = x 4 = x 5 = (A) (B) x = B/A = on Indicators: >> 50% is \$3.0' aptations' (Provide supporting or on a separate sheet) cular Planta' phytic Vegetation' (Explain) ill and wetland hydrology must burbed or problematic.

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Interim Version

Depth Matrix (inches) Color (moist) % July 10712 3/4	Redox Features Color (moist) % Type Lo	Texture Remarks
Type: C=Concentration, D=Depletion, RM: Hydric Soil Indicators: (Applicable to all	=Reduced Matrix, CS=Covered or Coated Sa	and Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ² :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except ML Loamy Gleyed Matrix (F2)	2 cm Muck (A10) Red Parent Material (TF2) RA 1) Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	⁵ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present): Type: Depth (inches):		Hydric Soil Present? Yes No
YDROLOGY		
Welland Hydrology Indicators: Primary Indicators (minimum of one require	d check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (exception 1, 2, 4A, and 4B)	
High Water Table (A2) Saturation (A3) Water Marks (B1)	Self Crust (B11) Aquatic Invertebrates (B13)	Drainage Patterns (B10) Dry-Season Water Table (C2)
Sediment Deposits (B2) Drift Deposits (B3) Algat Mat or Crust (B4)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livid Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C ng Roots (C3) Geomorphic Position (D2) Shallow Aquifard (D3)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (
Field Observations: Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes Saturation Present? Yes		Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, previous inspec	tions), if available:
Remarks: Wy		
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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

US Army Corps of Engineers

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Western Mountains, Valleys, and Coast - Interim Version

pilicant/Overes: Science 1 Section, Township, Range: SST 27 N RESENDENCY Section, Township, Range: SSST 27 N RESENDENCY Stope (%): Stope	plicant/Owner: Swahond Co				Date: DP IS
Local relief (concave, convex, none): Local relief (concave, convex, none): Local relief (concave, convex, none): Dotum: It is present (RR): Local relief (concave, convex, none): Dotum: It has Unit Name: A local relief (concave, convex, none): NWI classification: NWI classification: No (If no, explain in Remarks.) No (If no, explain in Remarks on Present? Yes (If no, explain in Remarks on Remarks.) No	plicant/Owner:	, , , , , , , , , , , , , , , , , , ,		Signer - 100 / Signer Signer - 100 / Signer - 100	J TZEF
Let: Long: Defum: Defum: Links plant Name: A Long: NWit classification: Circumstate Phytrologic conditions on the site typical for this time of year? Yes No (If no. supini in Remarks.) Vogetation Scal or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Ramarks.) IMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Videophylic Vagetation Present? Yes No (If needed, explain any answers in Ramarks.) IMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Videophylic Vagetation Present? Yes No (If needed, explain any answers in Ramarks.) IMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Videophylic Vagetation Present? Yes No (If needed, explain any answers in Ramarks.) IMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Videophylic Vagetation Present? Yes No (If needed, explain any answers in Ramarks.) IMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Videophylic Vagetation Present? Yes No (If needed, explain in Remarks or any answers in Ramarks.) IMMARY OF FINDINGS — No (If needed, explain indicator (If needed, explain					
Map Unit Name:					
climatic / hydrologic conditions on the site typical for this time of year? Yes No	region (LRR):	Lat:			Datum:
Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Vegetation Soil or Hydrology naturally problematic? (It needed, explain any enswers in Ramarks.) MMARY OF FINDINGS — Attach site map showing sampling point locations, transacts, important features, etc. drophylic Vegetation Present? Yes No Is the Sampled Area within a Wettand? Yes N					
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MMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Indiring by the section of present? Yes					
Is the Sampled Area within a Wetland? Yes	Vegetation, Soit or Hydrology	naturally problematic	? (If needed, e	xplain any answers in Rem	arks.)
within a Wetland? Yes No Within a Wetland? Wetland Hydrology Present? Yes No Within a Wetland? Wetland Hydrology Present? Yes No Modeling No. GETATION — Use scientific names of plants. Be Stratum (Plot size:	MMARY OF FINDINGS - Attach site	map showing sampl	ing point location	ns, transects, impor	tant features, etc
within a Wetland? Yes No within a Wetland? Yes No No within a Wetland? Yes No No No No No No No No	d. b. 6. 1/2 . d. 6	/			
retaind Hydrology Present? Yes No	,				
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GETATION - Use scientific names of plants. Absolute Dominant Indicator 36. Cover. Species Status That Are OBL, FACW, or FAC. (A) Total Number of Dominant Species That Are OBL, FACW, or FAC. (A) Total Number of Dominant Species That Are OBL, FACW, or FAC. (A/B) Prevalence Index worksheet: Total Y. Cover of Multiply by: OBL species x1 = FACW species x2 = FACW species x2 = FACW species x3 = FACW species x4 = UPL species x5 = Column Totals. (A) (B) Prevalence Index = 9/A = Hydrophytic Vegetation Indicators: Obminants Species Column Totals. (A) (B) Prevalence Index = 9/A = Hydrophytic Vegetation Indicators: Obminants Species x5 = Column Totals. (A) (B) Prevalence Index = 9/A = Hydrophytic Vegetation Indicators: Obminants Species Are that Are OBL, FACW, or FAC. (A/B) Prevalence Index worksheet: Total Cover Total Cover (B) Prevalence Index = 9/A = Hydrophytic Vegetation Indicators: Obminants Species Are that Are OBL, FACW, or FAC. (A/B) Prevalence Index worksheet: Total Cover (B) Prevalen			.,		
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Absolute Dominant Indicator Species Obminant Indicator Species Obminant Sp					***************************************
Number of Dominant Species Status Number of Dominant Species That Are OBL, FACW, or FAC: (A)	GETATION – Use scientific names o	of plants.			
That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Stratum (Plot size:) = Total Cover Percent of Dominant Species That Are OBL, FACW, or FAC: (AB) Prevalence Index worksheet:				nance Test worksheet:	
Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)	¿e Stratum (Plot size:)				/ "
Species Across All Strata. [8] Percent of Dominant Species That Are OBL, FACW, or FAC. [AB] Prevalence Index worksheet: Total 'K Cover of. Multiply by. OBL species					
Percent of Dominant Species That Are OBL, FACW, or FAC. Prevalence Index worksheet: Total 'Cover of: Multiply by			I Utal) (8)
Total Cover Percent of Dominant Species AB					
Prevalence Index worksheet: Total '& Cover of: Multiply by:		= Total			100 (NB)
Total & Cover of: Multiphy by: OBL species		_)			
OBL species					
FACW species					
FAC species					
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Prevalence Index = 9/A = Column Totals.					
Prevalence Index = 9/A = Hydrophytic Vegetation Indicators:			LIPI		
Prevalence Index = 9/A =		80	Colur	nn Totals:(A)(B)
Hydrophytic Vegetation Indicators:				O	
Prevalence Index is s3.0" Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Wetland Non-Vasculer Plants' Problematic Hydrophytic Vagetation (Exptain) Indicators of hydric soil and welland hydrology must be present, unless disturbed or problematic. Problematic Hydrophytic Vagetation Total Cover #### Total Cover ###################################					wie.
data in Remarks or on a separate sheet) Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Exptain) ¹Indicators of hydro soil and welland hydrology must be present, unless disturbed or problematic. ### Total Cover #### Total Cover ###################################				Aorphological Adaptations 1	Provide supporting
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Problematic Hydrophytic Vegetation' (Explain) Indicators of hydric solal and welland hydrology must be present, unless disturbed or problematic. = Total Cover Hydrophytic Vegetation Present? Yes No			V		
Indication of hydro soil and wailiand hydrology must be present, unless disturbed or problemetic.					
pody Vine Stratum (Plot size: = Total Cover Hydrophytic Yegetation Present? Yes No					
Hydrophytic Vegetation Total Court Present? Yes No		= Total (
Vegetation Present? Yes No					
Total Cover					
Bare Ground in Herb Stratum			Pros		No
	Bare Ground in Herb Stratum	# Total C	-Over		

US Army Corps of Engineers

Depth <u>Matrix</u>		Redox				***	Physical action
inches) Color (moist)	 %	Color (moist)	<u>%</u>	Type'	_Loc2	Texture	Remarks
16 104R3	r L	C mal					
		*					
							ocation: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=D lydric Soit Indicators: (App					o Sano Gr		tors for Problematic Hydric Soils ³ :
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Histosol (A1)		Sandy Redox (5 Stripped Matrix					d Parent Material (TF2)
Histic Epipedon (A2) Black Histic (A3)		Loamy Mucky N) /eveent	MIRA 1)		her (Explain in Remarks)
Hydrogen Sulfide (A4)		Loamy Gleyed N				_ •	(2-)
Depleted Selow Dark Surf	ace (A11)	Depleted Matrix					
Thick Dark Surface (A12)		Redox Dark Sur				3Indica	lors of hydrophytic vegetation and
Sandy Mucky Mineral (S1		Depleted Dark S		7)		wet	land hydrology must be present,
Sandy Gleyed Metrix (S4)		Redox Depress	ons (F8)			unic	ess disturbed or problematic.
lestrictive Layer (if present)	:						,
Туре:		-					
Depth (inches):						Hydric So	il Present? Yes No
emārks:							·
YDROLOGY							
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YDROLOGY							ondary Indicators (2 or more required)
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YDROLOGY Vetland Hydrology Indicato trimary Indicators (minimum.c		Water-Stai			xcept MLF		Water-Stained Leaves (89) (MLRA 1, 4A, and 4B)
YDROLOGY Veitland Hydrology Indicato Inimary Indicators (minimum, c Surface Water (A1)		Water-Stai	ned Leave , and 4B)		xcept MLF	—	Water-Stained Leaves (89) (MLRA 1, 4A, and 4B) Dreinage Patterns (810)
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YDROLOGY Vettand Hydrology Indicator rimery Indicators, (minimum.c. Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conciled Observations: Furface Water Present?	f one required; cf	Water-Stai 1, 2, 4A Salt Crust Aqualic Int Hydrogen: Oxidized R Presence Recent Iro Stunted or Other (Exp	ned Leave , and 4B) (B11) reriebrates Sulfide Od- thizosphero of Reduceco n Reduction Stressed Falain in Ren ches):	s (B13) lor (C1) les along d Iron (C4 on in Tiller Plants (D	Living Roo 4) d Solls (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Indicator rimmery Indicators (minimum of Surface Water (A1) High Water Table (A2) Sabration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligst Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetate Concited Observations: Vater Table Present? Vater Table Present?	al Imagery (87) ave Surface (88) YesNo YesNo	Water-Stai 1,2,4A Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iron Stunted or Other (Exp	ned Leave , and 4B) (B11) rentebrates Sulfide Odd hitzosphere of Reduceon n Reduction Stressed F lain in Ren ches): thes): thes):	s (B13) for (C1) es along d Iron (C4 on in Tiller Plants (D marks)	Living Race() d Soils (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Dry-Season Water Tabla (C2) Saturation Visible on Agrial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A) Froat-Heave Hummocks (D7)
YDROLOGY Vettand Hydrology Indicator rimery Indicators, (minimum.c. Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conciled Observations: Furface Water Present?	al Imagery (87) ave Surface (88) YesNo YesNo	Water-Stai 1,2,4A Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iron Stunted or Other (Exp	ned Leave , and 4B) (B11) rentebrates Sulfide Odd hitzosphere of Reduceon n Reduction Stressed F lain in Ren ches): thes): thes):	s (B13) for (C1) es along d Iron (C4 on in Tiller Plants (D marks)	Living Race() d Soils (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Dry-Season Water Tabla (C2) Saturation Visible on Agrial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A) Froat-Heave Hummocks (D7)
YDROLOGY Vetland Hydrology Indicator rimmery Indicators (minimum of Surface Water (A1) High Water Table (A2) Sabration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligst Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetate Concited Observations: Vater Table Present? Vater Table Present?	al Imagery (87) ave Surface (88) YesNo YesNo	Water-Stai 1,2,4A Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iron Stunted or Other (Exp	ned Leave , and 4B) (B11) rentebrates Sulfide Odd hitzosphere of Reduceon n Reduction Stressed F lain in Ren ches): thes): thes):	s (B13) for (C1) es along d Iron (C4 on in Tiller Plants (D marks)	Living Race() d Soils (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) Dry-Season Water Tabla (C2) Saturation Visible on Aarial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A) Froat-Heave Hummocks (D7)
YDROLOGY Vatiand Hydrology Indicator rimery Indicators (minimum.c Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conciled Observations: Surface Water Present? Vater Table Present? Includes capillary fringe) Describle Recorded Data (stre	al Imagery (87) ave Surface (88) YesNo YesNo	Water-Stai 1,2,4A Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iron Stunted or Other (Exp	ned Leave , and 4B) (B11) rentebrates Sulfide Odd hitzosphere of Reduceon n Reduction Stressed F lain in Ren ches): thes): thes):	s (B13) for (C1) es along d Iron (C4 on in Tiller Plants (D marks)	Living Race() d Soils (C6 1) (LRR A)	ts (C3)	Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) Dry-Season Water Tabla (C2) Saturation Visible on Aarial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A) Froat-Heave Hummocks (D7)

US Army Corps of Engineers

SOIL

Western Mountains, Valleys, and Coast - Interim Version

Sampling Point: _____

wether c

Western Mountains, Valleys, and Coast - Interim Version

	- Western Mountains, Valleys, and Coast Region	7_
	y/County: Sachume h Co sampling Date: 3-	
pilicanti Owner: Suchus de Cor Pulls	State: Sampling Point: DP	<u>- </u>
	ction, Township, Range: S35 T27N R55	
	ocal relief (concave, convex, none): Slope (%):	
bregion (LRR):Lat:	Long: Datum:	
if Map Unit Name: Aldmans d	NWI classification:	
e climatic / hydrologic conditions on the site typical for this time of year	Yes No (If no, explain in Remarks.)	
e Vegetation, Spil or Hydrology significantly di	sturbed? Are "Normal Circumstances" present? Yes No	
e Vegetation, Soil, or Hydrology naturally probl	emalic? (If needed, explain any answers in Remarks.)	
JMMARY OF FINDINGS - Attach site map showing s	ampling point locations, transects, important features,	etc.
Hydrophytic Vegetation Present? Yes No	is the Sampled Area	
Vettand Hydrology Present? Yes No	within a Wetland?	
Remarks:		\dashv
EGETATION - Use scientific names of plants.		
	Dominant Indicator Dominance Test worksheet: Species? Status Number of Dominant Species	
- Se Strate (Fig. 1972)		,
)
	Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)	Total Cover That Are OBL, FACW, or FAC; 100 (A	√B)
5= (1x 5 1), har 5	FACW Prevalence Index worksheet:	
		į
	OBL species x 1 *	
	FAC species x 3 *	
erb Stratum (Plot size:)	Total Cover	
Athon Wa Tema	Column Totale: (A)	В)
Juleus effices	TAC in i	-
Runner is reps	Prevalence Index = B/A =	
	mydrophytic vegetation indicators.	1
	n 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	A Secretaria Constant and Const	,
	data in Remarks or on a separate sheet)	.
l	Wetland Non-Vascular Plants	
0	Problematic Hydrophytic Vegetation (Explain)	
1.	Indicators of hydric soil and welland hydrology mus	"
- Andrewskin and Andr	Total Cover	
Voody Vine Stratum (Plot size:)	Mudranhuite	I
	Hydrophytic Vegetation	1
*	Present? Yes No	- 1
6 Bare Ground in Herb Stralum		

US Army Corps of Engineers

Depth Matrix (inches) Color (moist) %	Calor (moist) % Type Lac	Texture Remarks
16 1072211		ه ی ا
10 11-011		
		rains. *Location; PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix, CS=Covered or Coated Sand Gr	Indicators for Problematic Hydric Soils ¹ :
Hydric Soil Indicators: (Applicable to a		
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10) Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Bepleted Below Dark Surface (A11)	Depleted Matrix (F3) Redox Dark Surface (F6)	3Indicators of hydrophylic vegetation and
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):	Redox Depressions (1.6)	7,102,010,000,000
Туре:	and the same state of the same	
Depth (inches):		Hydric Soil Present? Yes No
YDROLOGY		
YDROLOGY Wetland Hydrology Indicators:		·
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one result		
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1)	Water-Stained Leaves (B9) (except MLI	RA Water-Stained Leaves (89) (MLRA 1
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one result	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B)	RA Water-Stained Leaves (B9) (MLRA 1 4A, and 4B)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11)	RA Water-Slained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810)
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11)	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery
YDROLOGY Wetland Hydrology indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Sait Crus (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc	RA Water-Slained Leaves (89) (MLRA 1 4A, and 4B) Diritinage Patterns (B10) Diry-Season Water Table (C2) Saturation Visible on Aerial Imagery (bts (C3)) Geomorphic Position (D2)
YDROLOGY Wettend Hydrology Indicators: Primary Indicators (minimum of one requir Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Acrial Imagery (3) Geomorphic Position (D2) Shallow Aquired (D3)
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Sait Crus (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (1) Security (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Wettend Hydrology indicators: Primery Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4)	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (5 (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Wattend Hydrology Indicators: Primary Indicators. (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) I ton Deposits (B4) Surface Soil Cracks (B6)	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reducad Iron (C4) Recent Iron Reduction in Tilled Solis (C6 Sturted or Stressed Plants (D1) (LRR A	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquirlard (D3) FAC-Neutral Test (D5)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Nat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reducad fron (C4) Recent Iron Reduction in Tilled Soits (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks)	Water-Stained Leaves (89) (MLRA 1
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracka (B6) Inundation Visible on Aerial Imagery (Sparsaly Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reducad fron (C4) Recent Iron Reduction in Tilled Soits (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks)	Water-Stained Leaves (89) (MLRA 1
YDROLOGY Wattend Hydrology Indicators: Primary Indicators. (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracke (B6) Inundation Visible on Aerial Imagery (Sparsaly Vegetated Concave Surface Field Observations:	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reducad fron (C4) Recent Iron Reduction in Tilled Soits (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks)	Water-Stained Leaves (89) (MLRA 1
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Source Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Viaible on Aerial Imagery (Sparsaly Vegetated Concave Surface Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxid/2ad Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks)	ARA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Staturation Visible on Aerial Imagery (Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Nat or Crust (B4) Iron Deposits (B3) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 48) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solis (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) (B8) No Depth (inches):	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (ots (C3) Geomorphic Position (D2) Shallow Aquirard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iton Deposits (B5) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Surfuciduses callilary rigney	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solts (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) No Depth (inches): Wett	Mater-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (ots (C3) Geomorphic Position (D2) Shallow Aquirtar (C0) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iton Deposits (B5) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Surfuciduses callilary rigney	Water-Stained Leaves (B9) (except MLI 1, 2, 4A, and 48) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solis (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) (B8) No Depth (inches):	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Season Water Table (C2) Shallow Aquirter (C3) Shallow Aquirter (C3) FAC-Neutral Test (C5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iton Deposits (B5) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Surfuciduses callilary rigney	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solts (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) No Depth (inches): Wett	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Season Water Table (C2) Shallow Aquirter (C3) Shallow Aquirter (C3) FAC-Neutral Test (C5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wettand Hydrology indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iton Deposits (B5) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Surfuciduses callilary rigney	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solts (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) No Depth (inches): Wett	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Season Water Table (C2) Shallow Aquirter (C3) Shallow Aquirter (C3) FAC-Neutral Test (C5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Source Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Ves Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge, r	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solts (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) No Depth (inches): Wett	4A, and 48) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Wattand Hydrology Indicators: Primary Indicators (minimum of one require Source Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Ves Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge, r	Water-Stained Leaves (BB) (except MLI 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced fron (C4) Recent Iron Reduction in Tilled Solts (C6 Stunted or Stressed Plants (D1) (LRR A B7) Other (Explain in Remarks) No Depth (inches): Wett	RA Water-Stained Leaves (89) (MLRA 1 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Season Water Table (C2) Shallow Aquirter (C3) Shallow Aquirter (C3) FAC-Neutral Test (C5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

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wet D

	City	/County: 5 ~/		Sampling Date:
plicant/Owner: Sucher of Car	-6-11		State: Aug	sampling Point:
			90: 535 T	
ndform (hillslope, terrace, etc.):	Lo	cal relief (concave, o	convex, none):	
bregion (LRR):	Lat:		Long:	Datum:
il Map Unit Name: Aldname:	ч		NWI classifica	
e climatic / hydrologic conditions on the site typical for the	nis time of year?	Yes No	(If no, explain in Re	marks.)
e Vegetation, Smil, or Hydrology	significantly dist	urbed? Are*!	Normal Circumstances" pr	esent? Yes No
e Vegetation, Soil, or Hydrology	naturally proble	matic? (If ne	eded, explain any answer	in Remarks.)
UMMARY OF FINDINGS - Attach site map	showing sa	impling point lo	ocations, transects,	important features, etc
Hydrophytic Vegetation Present? Yes	No	is the Sampled	Area	/
Hydric Soil Present? Yes	No	within a Wetlan		. No
Wetland Hydrology Present? Yes	No			
Remarks:				
EGETATION - Use scientific names of pla				5 5
Free Stratum (Plot size:)	Absolute D % Cover S	ominant Indicator pecies? Status	Dominance Test works	
		FAC	Number of Dominant Sp That Are OBL, FACW, o	FAC: Z (A)
			Total Number of Domina	_
			Species Across All Strat	
l			Percent of Dominant Sp	min 10ch
			That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size:) (1) (1) (1) (1	Ŧ	FAL	Prevalence Index work	
12500 Special				Multiply by:
2				x1=
				x2=
·			FAC species	
5.			FAC species	x4=
	*		FACU species	
i		Total Cover	FACU species	x 4 =
5	*	Total Cover	FACU species UPL species Column Totals:	x 4 =
i	**************************************	Total Cover	FACU species UPL species Column Totals: Prevalence Index	x 4 =
i		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio	x 4 =
5		Total Covet	FACU apecies UPL species Column Totala: Prevalence Index Hydrophytic Vegetatio Dominance Test is:	x 4 =
5		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Dominance Test is: Prevalence Index is	x 4 =
5) 5) 6) 6) 6		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Dominance Test is: Prevalence Index is Morphological Adag data in Remarks	x 4 =
5		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Dominance Test is: Prevalence Index is Morphological Adag data in Remarks Wetland Non-Vascu	x 4 =
3		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Dominance Test is: Prevalence Index is Morphological Adar data in Remark Wetland Non-Vascu. Problematic Hydrop	x 4 =
5		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Cominance Test is: Prevalence Index Morphological Adap data in Remarks Wetland Non-Vascu. Wetland Non-Vascu. Vediand reduction of the Hydrop 'indicators of hydric soil	x 4 =
5		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Dominance Test is: Prevalence Index is Morphological Adar data in Remark Wetland Non-Vascu. Problematic Hydrop	x 4 =
6		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Cominance Test is: Prevalence Index is Morphological Agriculture data in Remarks Wetland Non-Vascu Problematic Hydrog Indicators of hydric soil be present, unless dishu	x 4 =
4		Total Cover	FACU species UPt species Column Totals: Prevalence Index Hydrophytic Vegestatio Cominance Test is: Prevalence Index is Morphological Adep date in Remerks Wetland Non-Vasc. Problematic Hydrop 'Indicators of hydric soil be present, unless distu	x 4 =
5 Herb Stratum (Piot size:) 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. Wyoody Vine Stratum (Piot size:)		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Cominance Test is: Prevalence Index is Morphological Agriculture data in Remarks Wetland Non-Vascu Problematic Hydrog Indicators of hydric soil be present, unless dishu	x 4 =
5		Total Cover	FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio Cominance Test is: Prevalence Index is Morphological Agriculture data in Remarks Wetland Non-Vascu Problemstic Hydrog Indicators of hydric soil be present, unless distu	x 4 = x 5 = (A) (B) = S/A = in indicators: 50% \$3.0' tations' (Provide supporting or on a separate sheet) its Plants' hytic Vegetation' (Explain) and welland hydrology musl rbed or problematic.

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We	stern	Mountains,	Vaileys.	and	Coast ~	Interim	Version	

Profile Descrip Depth	Matrix	Redox Features		
(inches)	Color (moist) %	Color (moist) % Type Loc	Texture	Remarks
16	10Vn Zh	FFF	654	
				······································
	······································			
		RM=Reduced Matrix, CS=Covered or Coated San	d Graine ² Loca	tion: PL=Pore Lining, M=Matrix.
		o all LRRs, unless otherwise noted.)		for Problematic Hydric Soils ¹ :
		Sandy Redox (S5)		Muck (A10)
Histosol (A		Stripped Matrix (S6)		Parent Material (TF2)
Histic Epip Black Histi		Loamy Mucky Mineral (F1) (except MLR)		(Explain in Remarks)
Black Fills		Loamy Gleyed Matrix (F2)		(=-,
	Sumde (A4) Below Dark Surface (A1:			
	Surface (A12)	Redox Dark Surface (F6)	3Indicators	of hydrophytic vegetation and
	cky Mineral (S1)	Depleted Dark Surface (F7)		hydrology must be present,
	eyed Matrix (S4)	Redox Depressions (F8)	unless	disturbed or problematic.
	yer (if present):			
Type:	,			
Depth (inch			Hydric Soil P	resent? Yes No
				, ,
Remarks:	Y			
Remarks: YDROLOG	Y ology Indicators:			
Remarks: YDROLOG Wetland Hydre	Y ology Indicators: tors (minimum of one re	puired: check all that apply)		ary Indicators (2 or more required)
Remarks: YDROLOG	Y ology Indicators: tors (minimum of one re	Water-Stained Leaves (B9) (except	MLRA Wa	ter-Stained Leaves (B9) (MLRA 1, 2
YDROLOG Wetland Hydr Primary Indical Surface W	Y ology Indicators: tors (minimum of one re	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B)	MLRA Wa	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLOG Wetland Hydr Primary Indical Surface W	Y ology Indicators: tors (minimum of one rei ater (A1) or Table (A2)	Water-Stained Leaves (B9) (except	MLRA Wa Dra	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) iinage Pattems (B10)
YDROLOG Wetland Hydro Primary Indicat Surface W High Wate	Y clogy Indicators: lors (minimum of one rei fater (A1) or Table (A2) (A3)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B)	MLRA Wa Dra Dry	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) tinage Pattems (B10) Season Water Table (C2)
YDROLOG Wetland Hydr Primary Indicat Surface W High Wate Saturation Water Mar	Y clogy Indicators: lors (minimum of one rei fater (A1) or Table (A2) (A3)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Selt Crust (B11)	MLRA Wa Dra Dry	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) tinage Pattems (B10) Season Water Table (C2)
YDROLOG Wetland Hydr Primary Indicat Surface W High Wate Saturation Water Mar	Y ology Indicators: ters (minimum of one rei fater (A1) or Table (A2) (A3) (A6) Deposits (B2)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aqualic Invertebrates (B13)	MLRA Wa Dra Dry Sat	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) tinage Pattems (B10) Season Water Table (C2)
YDROLOG Wetland Hydr Primary Indical Surface W High Wate Saturation Water Max Sediment Drift Depo	Y ology Indicators: ters (minimum of one rei fater (A1) or Table (A2) (A3) (A6) Deposits (B2)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic hivertebrates (B13) Hydrogen Sulfide Odor (C1)	MLRA Wa Dra Dry Sat Roots (C3) Ge	ter-Slained Leaves (B9) (MLRA 1, 2 4A, and 4B) inage Pattems (B10) r-Season Water Table (C2) unation Visible on Aerial Imagery (C
YDROLOG Vetland Hydr Primary Indical Surface W High Wate Saturation Water Mar Sediment Drift Depo	Y vology indicators: tors (minimum of one rei rater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) site (B3) or Crust (B4)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Saft Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	MLRA Wa Drs Dry Sat Roots (C3) Ge Shi	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aarial Imagery (C omorphic Position (D2)
YDROLOG Wetland Hydr Primary Indicat Surface W High Wate Saturation Water Mac Sediment Drift Dec Algal Mat (ron Depo)	Y vology indicators: tors (minimum of one rei rater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) site (B3) or Crust (B4)	Water-Stained Leaves (89) (except 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	MiLRA Wa Dra Dry Sat Roots (C3) Ge Shi s (C6) FAi	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) inage Patterns (B10) -Season Water Table (C2) unsation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquiterd (D3)
YDROLOG Wetland Hydr Surface W High Wate Saturation Unit Depo Aligal Mat Iron Depo Surface Surface Stuffeen Stuffeen Stuffeen Stuffeen Surface	Y ology Indicators: ters (minimum of one resider (A1) or Table (A2) (A3) (A3) Opposits (B2) aste (B3) or Crust (B4) sits (B5)	Water-Stained Leaves (B9) (except 1, 2, 4A, and 48) Self Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Solt Situnted or Stressed Plants (D1) (LR	MLRA Wa Dra Dra Ste Roots (C3) Set Sh. s (C6) FA. (R A) Ra	ter-Stained Leaves (BS) (MLRA 1, 2 4A, and 4B) intage Patterns (B10) «Season Water Table (C2) turation Visible on Aerial Imagery (C emorphic Postition (D2) allow Aquitard (D3) C-Neutral Test (D5)
YDROLOG Watland Hydr Primary Indicat Surface W Hydra Water Mar Sadiment Drift Depo Algal Mat tron Depo: Surface S: Inundation	Y clogy Indicators: tors (minimum of one rei fater (A1) r Table (A2) (A3) (A3) (A5) (A5) (A6) (A7) (A6) (A7) (A7) (A8) (A7) (A8) (A8) (A8) (A8) (A9) (A8) (A9) (A9) (A9) (A9) (A9) (A9) (A9) (A9	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solt stunted or Stressed Plants (D1) (LR ry (B7) Other (Explain in Remarks)	MLRA Wa Dra Dra Ste Roots (C3) Set Sh. s (C6) FA. (R A) Ra	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery (C emorphic Position (D2) allow Aquister (D3) C-Neutral Test (D5) ised Ant Mounds (D8) (LRR A)
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YDROLOG Wetland Hydr Primary Indicat Surface W High Water Mar Sadiment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparage Field Observa	IY ology Indicators: tors (minimum of one rei fater (A1) r Table (A2) (A3) fas (B1) Deposits (B2) site (B3) or Crust (B4) sits (B5) oil Cracks (B6) ivisible on Aerial Image vegetated Concave Surf	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solt stunted or Stressed Plants (D1) (LR ry (B7) Other (Explain in Remarks)	MLRA Wa Dra Dra Ste Roots (C3) Set Sh. s (C6) FA. (R A) Ra	ter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) intage Patterns (B10) «Season Water Table (C2) uration Visible on Aerial Imagery (C emorphic Position (D2) allow Aquister (D3) C-Neutral Test (D5) ised Ant Mounds (D8) (LRR A)
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YDROLOG Wetland Hydr Primary Indicat Surface W High Water Max Sadiment Drift Depo Surface S: Inundation Inundation Sparaely Field Observe Sparaely Surface State Water Table Saturation Pre (includes casil includes to a lincil	Y ology Indicators: ters (minimum of one resider (A1) of Table (A2) (A3) Poposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B8) Vegetsted Concave Surf stions: Present? Yes sent? Yes sent? Yes sent? Yes sent?	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced fron (C4) Recent fron Reduction in Tilled Solt Situnted or Stressed Plants (D1) (LR oy (B7) Other (Explain in Remarks) ace (B8) No Depth (inches): Depth (inches):	MLRA	iter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) intage Patterns (B10) -Season Water Table (C2) turation Visible on Agrial Imagery (C omorphic Position (D2) allow Aquiterd (D3) C-Neutral Test (D5) ised Ant Mounds (D8) (LRR A) at-Heave Hummocks (D7)
YDROLOG Wetland Hydr Primary Indicate Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Surface Si Inundation Sparsely Field Observa Surface Water Water Tabla P Saturation Pres (includes capil) Describe Reco	Y ology Indicators: ters (minimum of one resider (A1) of Table (A2) (A3) Poposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B8) Vegetsted Concave Surf stions: Present? Yes sent? Yes sent? Yes sent? Yes sent?	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced fron (C4) Recent fron Reduction in Tilled Solt Situnted or Stressed Plants (D1) (LR oy (B7) Other (Explain in Remarks) ace (B8) No Depth (inches): Depth (inches):	MLRA	iter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) intage Patterns (B10) -Season Water Table (C2) turation Visible on Agrial Imagery (C omorphic Position (D2) allow Aquiterd (D3) C-Neutral Test (D5) ised Ant Mounds (D8) (LRR A) at-Heave Hummocks (D7)
YDROLOG Wetland Hydr Primary Indicate Surface W High Water Saturation Water Mar Sediment Orifi Depo Algal Mat Iron Depo Surface Si Inundation Sparsely Field Observa Surface Water Water Tabla P Saturation Pres (includes capil) Describe Reco	Y ology Indicators: ters (minimum of one resider (A1) of Table (A2) (A3) Poposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B8) Vegetsted Concave Surf stions: Present? Yes sent? Yes sent? Yes sent? Yes sent?	Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced fron (C4) Recent fron Reduction in Tilled Solt Situnted or Stressed Plants (D1) (LR oy (B7) Other (Explain in Remarks) ace (B8) No Depth (inches): Depth (inches):	MLRA	iter-Stained Leaves (BS) (MLRA 1, 2 4A, and 4B) intage Patterns (B10) -Season Water Tabls (C2) turation Visible on Agriel Imagery (C omorphic Position (D2) allow Aquiterd (D3) C-Neutral Test (D5) ised Ant Mounds (D8) (LRR A) at-Heave Hummocks (D7)

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SOIL

Western Mountains, Valleys, and Coast - Interim Version

Sampling Point:

	WETLANI	D DETER	MINATION	DATA FOR	M – Wes	stern Mou	ntains, Valleys,	and Coast Reg	jion	
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ject/Site: _	J~660	7824	7 - MA	D. Lu	City/Count	y:	رسراState:	Sampling Dat	• 5	P
			· <u>{\$</u> /	Paul 1			رسرا :State	Sampling Poil	1t: <u>V</u>	~
stigator(s): 2	Sew	~!'		Section, T	ownship, Rar	nge: <u>535</u>	1212	1-3	
			······································				convex, none):			
region (LF	RR):	A 1 1		Lat:			Long:		atum;	
	Name:						NWI clas			
							(If no, explain		·/	
	n, Soil _						Normal Circumstance	•	No	
Vegelatio	n S o il _	or H	ydrology	naturally pro	oblematic?	(If ne	eded, explain any an	iswers in Remarks.)	
MMARY	OF FINDIN	IGS - Att	ach site m	ap showing	sampli	ng point le	ocations, transe	cts, important	feature	s, etc
ydrophytic ydric Soil F	Vegetation Pre	sent?	Yes	No		the Sampled		/		
	drology Present	?	Yes	No	wit	thin a Wetlan	id7 Yes_	No		
emarks:		***************************************								
GETAT	ION Use s	cientific	names of p							
na Ciratur	n (Plot size:			Absolute % Cover	Dominar	nt Indicator ? Status	Dominance Test v		-,	
DE SHAIUI	Alaus	rub	ズ				Number of Domina That Are OBL, FAC	int Species CW, or FAC:	<u> </u>	(A)
	-K						Total Number of D		_	
							Species Across All			(B)
							Percent of Domina	int Species	3	
					= Total C	over	That Are OBL, FAC		00	(A/B)
apting/Shr	ub Stratum (PI	ot size:	itehol.	•		FAL	Prevalence Index	worksheel:		
		-4-		,			Total % Cover		tiply by:	
		······································						x1#_		
							FACW species	×2=_		
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				***************************************	_ = Total C	over		×4 = _		_
erb Stratu	m (Piot size:) han a 16 male			DOL		x5*_		
	7 3.000						Column Totals:	(A)		(B)
							Prevalence In	ndex = B/A =		
							Hydrophytic Vege	etation Indicators:		
		***************************************					Dominance Te			
							Prevalence Ini			
							Morphological	Adaptations ¹ (Prov	ide suppor	rting
								mark≱ or on a sepa Vascular Plants¹		
								lydrophytic Vegetali	ion¹ (Explai	in)
)					-		Indicators of hydri	ic soil and wetland	hydrology r	
							be present, unless	disturbed or proble	matic.	
1	Stratum (Plot	t size:			_≖ Total C	DAGI				
							Hydrophytic			
oody Vine							Vegetation			
oody Vine							Present?	Yes No		
	ound in Herb Str				_= Total C	over	Present?	Yes No		

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Western Mountains, Valleys, and Coast -- Interim Version

refile Description: (Describe to the de	pth needed to document the indicator or confin	n the absence of indicators.)
Depth Matrix Inches) Color (moist) %	Redox Features Color (moist) % Type Loc2	Texture Remarks
16 10 ma/1		986
Type: CaConcentration DaDeoletion R	M=Reduced Matrix, CS≃Covered or Coated Sand G	rains, ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to		Indicators for Problematic Hydric Soils ¹ :
•		2 cm Muck (A10)
Histosol (A1)	Sandy Redox (S5)	Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)) Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (\$1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
lestrictive Layer (if present):		
Type:		.
,,	earlier divide about	Hydric Soil Present? Yes No.
Depth (inches):		Hydric Soil Present? 188 NO
emarks:		
YDROLOGY		
YDROLOGY Vetland Hydrology Indicators:		Secondary Indicators (7 or more required)
YDROLOGY Vetland Hydrology Indicators: rrimery Indicators (minimum of one resui		Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators:	red: check all that apply) Water-Stained Leaves (B9) (except ML	
YDROLOGY Vetland Hydrology Indicators: rrimery Indicators (minimum of one resui		
YDROLOGY Wetland Hydrology Indicators: rimary Indicators (minimum of one (esui	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B)	RA Water-Slained Leaves (B9) (MLRA 1, 2
YDROLOGY Vetland Hydrology Indicators: rimery Indicators (minimum of one (soui Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11)	.RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10)
/DROLOGY Vetland Hydrology Indicators: rimary Indicators /minimum of one requi Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	.RA Water-Slained Leaves (89) (MLRA 1, 2 4A, and 4B) Dreinage Patterns (810) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1)	
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one result Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Salt Crust (811) Aquatic Invertebrates (B13) Hydrogen Bulfde Odor (C1) Oxidized Rhizospheres along Living Ro	RA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) — Orainage Patterns (810) — Ory-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Clots (C3) — Geomorphic Position (D2)
/DROLOGY Vetland Hydrology Indicators: rimger/ Indicators / minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposite (B3) Algsi Mat or Crust (B4)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Ro Presence of Reduced Iron (C4)	RA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (810) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Cl ots (C3) — Geomorphic Position (D2) — Shallow Aquitard (D3)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one result Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C	RA Water-Stained Leaves (89) (MLRA 1, 2 44, and 48)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algel Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Ro Presence of Reduced Iron (C4)	RA Water-Stained Leaves (89) (MLRA 1, 2 44, and 48)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one (soui Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C Stunted or Stressed Plants (D1) (LRR A	RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Cl ots (C3) — Geomorphic Position (D2) — Shallow Aquifard (D3) 8) — FAC-Neutral Test (D5) A) — Reised Ant Mounds (D6) (LRR A)
/DROLOGY Vetland Hydrology Indicators: rimery Indicators / minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) —Salt Crust (B11) —Aquatic Invertebrates (B13) —Hydrogen Sulfide Odor (C1) —Oxidized Rhizospheres along Living Ro —Presence of Reduced Iron (C4) —Recent Iron Reduction in Tilled Soils (C —Stunted or Stressed Plants (D1) (LRR 4 (B7) —Other (Explain in Remarks)	RA Water-Stained Leaves (89) (MLRA 1, 2 44, and 48)
/DROLOGY Vetland Hydrology Indicators: rimary Indicators /minimum of one /equi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposite (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soit Cracka (B8) Inundation Visible on Aerial Imagery Sparsely Vegelated Concave Surface	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) —Salt Crust (B11) —Aquatic Invertebrates (B13) —Hydrogen Sulfide Odor (C1) —Oxidized Rhizospheres along Living Ro —Presence of Reduced Iron (C4) —Recent Iron Reduction in Tilled Soils (C —Stunted or Stressed Plants (D1) (LRR 4 (B7) —Other (Explain in Remarks)	RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Cl ots (C3) — Geomorphic Position (D2) — Shallow Aquifard (D3) 8) — FAC-Neutral Test (D5) A) — Reised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Indicators: rimery Indicators (minimum of one requi Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligst Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsaly Vegefated Concave Surface Teld Obsesty Vegefated Concave Surface	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks)	RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Cl ots (C3) — Geomorphic Position (D2) — Shallow Aquifard (D3) 8) — FAC-Neutral Test (D5) A) — Reised Ant Mounds (D6) (LRR A)
PDROLOGY Vetland Hydrology Indicators: rimary Indicators minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Cruat (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery Spansaly Vegetated Concave Surface Itield Observations: Furface Water Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Saft Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunded or Stressed Plants (D1) (LRR / B) (B7) Other (Explain in Remarks)	RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (Cl ots (C3) — Geomorphic Position (D2) — Shallow Aquifard (D3) 8) — FAC-Neutral Test (D5) A) — Reised Ant Mounds (D6) (LRR A)
PDROLOGY Vetland Hydrology Indicators: rimary Indicators minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Cruat (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery Spansaly Vegetated Concave Surface Itield Observations: Furface Water Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks)	RA Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aeriel Imagery (C1 ots (C3) — Geomorphic Position (D2) — Shallow Aquifard (D3) 8) — FAC-Neutral Test (D5) A) — Reised Ant Mounds (D6) (LRR A)
POROLOGY Vetland Hydrology Indicators: rimpery Indicators minimum of one requi Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsaly Vegetated Concave Surface Isleid Observations: Furface Water Present? Yes Vater Table Present?	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	RA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) Oreinage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Ct ots (C3) Shallow Aquitard (D3) Shallow Aquitard (D3) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
/DROLOGY Vetland Hydrology Indicators: rimpary Indicators /minimum of one requi Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery Spansaly Vegetated Concave Surface ield Observations: Vater Table Present? Yes Saturation Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wet	RA
/DROLOGY Vetland Hydrology Indicators: rimpary Indicators /minimum of one requi Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery Spansaly Vegetated Concave Surface ield Observations: Vater Table Present? Yes Saturation Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	RA
VDROLOGY Vetland Hydrology Indicators: rimery Indicators (minimum of one requi Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegefasted Concave Surface ield Observations: iurface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Secribe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wet	RA
/DROLOGY Vetland Hydrology Indicators: rimpary Indicators /minimum of one requi Surface Water (A1) High Water Table (A2) Seturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery Spansaly Vegetated Concave Surface ield Observations: Vater Table Present? Yes Saturation Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes Saturation Present? Yes Surfaced Water Present? Yes Surfaced Water Present? Yes Surfaced Present? Yes	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wet	RA
VDROLOGY Vetland Hydrology Indicators: rimery Indicators (minimum of one requi Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegefasted Concave Surface ield Observations: iurface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Secribe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wet	ARA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) Orsinage Patterns (810) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Ci ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) B) FAC-Neutral Test (D5) A raised Ant Mounds (D8) (LRR A) Frost-Heave Hummocks (D7)
VDROLOGY Vetland Hydrology Indicators: rimery Indicators (minimum of one requi Surface Weter (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aligal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegefasted Concave Surface ield Observations: iurface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Secribe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR / (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wet	AA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 8) FAC-Neutral Test (D5) A Raised Ant Mounds (D8) (LRR A) Frost-Heave Hummocks (D7)

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Western Mountains, Valleys, and Coast - Interim Version

	City/County: 5 ~		Sampling Date: 3713
		جرس State: مرسل	Sampling Point: DPF
		nge: 535 T	
ndform (hillstope, terrace, etc.):			
pregion (LRR):Lat:		_ Long:	Datum:
Map Unit Name: Aldness of		NWI classifi	
climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes No _	(If no, explain in F	Remarks.)
Vegetation, Spil, or Hydrology significantly	disturbed? Are	Normal Circumstances	present? Yes No
Vegetation, Soil, or Hydrology naturally pre-	oblematic? (If ne	eded, explain any answe	ers in Remarks.)
MMARY OF FINDINGS – Attach site map showing		ocations, transects	s, important features, etc.
ydrophytic Vegetation Present? Yes No	is the Sampled	1 &	
ydric Soil Present? Yes No			No.
/etland Hydrology Present? YesNo	777		
emarks:			
GETATION – Use scientific names of plants.			
Absolute ree Stratum (Plot size:) % Cover	Dominant Indicator Species? Status	Dominance Test work	
Alaus Alaus	FAC	Number of Dominant S That Are OBL, FACW,	
		Total Number of Domle Species Across All Str	
	= Total Cover	Percent of Dominant S That Are OBL, FACW.	
apling/Shrub Stratum (Plot size:)			
Zubus spectebuls		Prevalence Index wo	
			Multiply by:
	-	1	×1 *
		1	x2 =
		1 -	x3=
erb Stratum (Plot size:	= Total Cover		x5*
Atty own File Penns	FAL		(A) (B)
		Column rotals.	(4)
		Prevalence Inde	c = B/A =
		Hydrophytic Vegetati	
		Dominance Test in	
		Prevalence Index	
		Morphological Ada	aptations ¹ (Provide supporting is or on a separate sheet)
		Wetland Non-Vas	
			ophytic Vegetation ³ (Explain)
0			il and welland hydrology must
1,		be present, unless dis	turbed or problematic.
loady Vine Stratum (Dlateira	= Total Cover		
loody Vine Stratum (Plot size;)		Hydrophytic	
		Vegetation	
	* Total Cover	Present? Yo	18 No
Bare Ground in Herb Stratum			

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Type: C=Concentration, D≖Depletion, RMs	Reduced Matrix, CS=Covered or Coated Sand G	rains. 'Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Historia (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (54)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
YDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	d; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except ML	RA Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
		Saturation Visible on Aerial Imagery (C9
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	
Drift Deposits (B3)	Oxidized Rhizospheres along Living Ro	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C.	8) FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A	Reised Ant Mounds (D8) (LRR A)
Inundation Visible on Aerial Imagery (B	7) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (88)	
Field Observations:		
	No Depth (inches):	,
	No Depth (inches):	
		land Hydrology Present? Yes No
Saturation Present? Yes (includes capillary fringe)	No Depth (Inches): Pret	iand Hydrology Present? 145 NO
	onitorion well serial photos previous inspections)	if available
Describe Recorded Data (stream naune m		
Describe Recorded Data (stream gauge, m	Sinoling wan, went priores, previous mapeonoras,	
Describe Recorded Data (stream gauge, m	SHOTHING WELL BUILD PROLOS, PROVIDES HESPEONORS,	
Describe Recorded Data (stream gauge, m Remarks:	ontolling well, well as proteon, proteon map controlly	
	Original Action by March 2010 1910 1910 1910 1910 1910 1910 1910	
	Onicoling Hail, Bollas process, process respectively.	
	Silver in the second se	
	Visioning West, world protoco, portions appearance,	
	visioning wear, excellent process, process respectively.	

US Army Corps of Engineers

SOIL

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WETLAND DETERMINATION DATA FORM - Western Mou	
roject/Site: Smoho Parky - Welling har city/County: Sm	when sh Co Sampling Date: 3-13-17
pplicant/Owner: Suphum. on Co. Points	State: Sampling Point: DPG
ivestigator(s): Se Se Lia Section, Township, Ra	nge: 535 T 27N RSE
andform (hillslope, terrace, etc.): Local relief (concave,	
ubregion (LRR): Lat:	Long: Datum:
	NWI classification:
re climatic / hydrologic conditions on the site typical for this time of year? YesNo	
	"Normal Circumstances" present? Yes No
	seded, explain any enswers in Remarks.)
UMMARY OF FINDINGS - Attach site map showing sampling point I	ocations, transects, important features, etc.
Hydrophylic Vegetation Present? Yes No Is the Samplec Within a Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No	
EGETATION – Use scientific names of plants. Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:) % Cover Species? Status	Number of Dominant Species
Almus ruba FAC	That Are OBL, FACW, or FAC:(A)
	Total Number of Dominant
	Species Across All Strata: (B)
≈ Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC; (A/B)
Sapling/Shrub Stratum (Plot size:)	That Are OBL, FACW, or FAC; (A/B)
Rubus spectabolis PAC	Prevalence Index worksheet:
	Total % Cover of: Multiply by:
	OBL species x1 =
	FACW species x2 =
	FAC species x 3 = FACU species x 4 =
erb Stratum (Plot size:) = Total Cover	UPL species x 5 =
Tolmen new zve SVLV FAL	Column Totals: (A) (B)
	Prevalence Index = B/A =
· ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Hydrophytic Vegetation Indicators:
	Dominance Test is >50%
	Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting
•	data in Remarks or on a separate sheet)
	Wetland Non-Vascular Plants ¹
0.	Problematic Hydrophytic Vegetation¹ (Explain)
1	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
≂ Total Cover	nd present, utiliess disturbed or problemedo.
Voody Vine Stratum (Plot size:)	
1.	Hydrophytic Vegetation
2.	Present? Yes No No
* Total Cover	
% Bare Ground in Herb Stratum	

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epth Matrix	Redox Features Color (moist) % Type 1 oc 2	Texture Remarks
nches) Color (moist) %	Color (moist) % Type' Loc'	Texture A
4 109h 2/2		9/10 1 200
16 10743/2	FFF	454
		7
······································		
		· >
	· ·	***************************************
vne: C×Concentration, D×Depletion, R	M≖Reduced Matrix, CS≖Covered or Coated Sand G	Brains. ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to s		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (\$5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicators of hydrophylic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Metrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
estrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No.
emarks:		,
emarka: 'DROLOGY		
		,
'DROLOGY	red; check all that apply)	Secondary Indicators (2 or more required)
/DROLOGY	reg; check all that apply) Water-Stained Leaves (B9) (except Mi	
/DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one, requi		
/DROLOGY lettand Hydrology Indicators: rimary Indicators (minimum of one recul Surface Water (A1)	Water-Stained Leaves (B9) (except Mil	RA Water-Stained Leaves (89) (MLRA 1,
/DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B)	Water-Stained Leaves (89) (MLRA 1, 4A, and 4B)
/DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11)	.RAWater-Stained Leaves (89) (MLRA 1, 4A, and 4B)Oreinage Patterns (B10) Dry-Season Water Table (C2)
'DROLOGY lettand Hydrology indicators: timery Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	
'DROLOGY lettand Hydrology indicators: timery Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1)	
"DROLOGY lettand Hydrology indicators: imary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Dapoalts (B2) Drift Depoalts (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rc	LRA Water-Stained Leaves (85) (MLRA 1, 4A, and 4B) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (0 Geomorphic Position (O2) Shatlow Aquitard (D3)
DROLOGY **estand Hydrology indicators: **imarv Indicators (minimum of one requi) **Surface Water (A1) **High Water Table (A2) **Saturation (A3) **Water Marks (B1) **Sediment Deposits (B2) **Drift Deposits (B3) **Aligal Mat or Crust (B4) **ton Deposits (B5)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) Oreinage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Castron (C2)) Season Water (D3) FAC-Neutral Test (D5)
/DROLOGY lettand Hydrology indicators: timary Indicators (minimum of one recui Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sadiment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B8)	Water-Stained Leaves (B9) (except ML 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR A	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) Oreinage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Castron (C2)) Season Water (D3) FAC-Neutral Test (D5)
IDROLOGY lettand Hydrology indicators: imarv Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sadiment Depoals (B2) Drift Depoals (B3) Algal Mat or Crust (B4) Iron Depoals (B6) Surface Soil Cracka (B6) Inundation Visible on Aerial Imagery	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Saft Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres atong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR /	
IDROLOGY lettand Hydrology indicators: rimarv Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Orifi Deposite (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B8) Inundation Visible on Aerial Imagery- Sparsety Vegetsted Concave Surface	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 4B) Saft Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres atong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR /	
/DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B8) Inundation Visible on Aerial Imagery Sparssly Vegetated Concave Surface letd Observations:	Water-Stained Leaves (B9) (except MU 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Ro Presence of Reducation (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR /	
"DROLOGY lettand Hydrology indicators: imarv Indicators (minimum of one recui Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iton Deposits (B5) Surface Soli Cracks (B8) Inundation Visible on Aerial Imagery Sparsaly Vegelated Concave Surface leid Observations: Vision Vegelated Concave Surface leid Observations: Ves	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Saft Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres stong Living Rc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunded or Stressed Plants (C1) (LRR /	
(DROLOGY lettand Hydrology indicators: irinary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery Sparsaly Vegetated Concave Surface led Observations: led Observations:	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR /	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B) — Dreimage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Agrial Imagery (C cost (C3)) — Shallow Aquitard (D3) — Shallow Aquitard (D3) — FAC-Neutral Test (D5) — Reised Ant Mounds (D8) (LRR A) — Froat-Heave Hummocks (D7)
/DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B8) Inundation Visible on Aerial Imagery Sparssly Vegetated Concave Surface leid Observations: urface Water Present? Yes situration Present? Yes	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR /	
Interest Present?	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (611) Aquatic Invertebrates (613) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C 5tunted or Stressed Plants (O1) (LRR / (87) Other (Explain in Remarks) (88) No Depth (inches): Wei	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B)
Interest Present?	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres slong Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C Stunted or Stressed Plants (D1) (LRR /	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B)
//DROLOGY lettand Hydrology indicators: rimary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface leid Observations: urface Water Present? Yes saturation Present? Yes saturation Present? Yes saturation Present? Yes secribe Recorded Data (stream gauge)	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (611) Aquatic Invertebrates (613) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C 5tunted or Stressed Plants (O1) (LRR / (87) Other (Explain in Remarks) (88) No Depth (inches): Wei	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B)
Interest Present?	Water-Stained Leaves (89) (except ML 1, 2, 4A, and 48) Salt Crust (611) Aquatic Invertebrates (613) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soits (C 5tunted or Stressed Plants (O1) (LRR / (87) Other (Explain in Remarks) (88) No Depth (inches): Wei	LRA Water-Stained Leaves (BS) (MLRA 1, 4A, and 4B)

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SOIL

Western Mountains, Valleys, and Coast - Interim Version

Sampling Point:

wetld H

roject/Site: Smeho Parky - b	Althy that city	County: 5 26 h		Sampling Date:	3-13
pplicant/Owner: Suphund Car			_ State:		<u>U' 1</u>
ivestigator(s): 21 Sewall	Sec	tton, Township, Range:	<u> 535 T</u>	27~ 12	5 E
andform (hillstope, terrace, etc.):	Loc	al relief (concave, conv	ex, none):		
ubregion (LRR):	Let:	Lo	ng:	Datum:	
oil Map Unit Name: Aldnur			NWI classific		
re climatic / hydrologic conditions on the site typica	for this time of year?	Yes No	_ (If no, explain in R	emarks.)	
re Vegetation, Spil, or Hydrology	significantly dist	urbed? Are *Norr	mal Circumstances" p	resent? Yes	No
re Vegetation Soil or Hydrology	naturally probler	natic? (It neede-	d, explain any answe	s in Remarks.)	
SUMMARY OF FINDINGS - Attach site	map showing sa	mpling point loca	tions, transects	, important feat	ures, etc.
Hydrophytic Vegetation Present? Yes	/No		-		
Hydric Soil Present? Yes	N9	is the Sampled Are within a Wetland?	* v ~	No	
Wetland Hydrology Present? Yes		Within a Welland	198		
Remarks:					
EGETATION Use scientific names of	plants.				
			ominance Test work	sheet:	*
Free Stratum (Plot size:	% Cover Sc	ecies? Status Nu	mber of Dominant Sp		***
			at Are OBL, FACW,	OFFAC:	(A)
3			ital Number of Domini secies Across All Stra		(B)
·		'			(D)
		otal Cover Th	rcent of Dominant Sp at Are OBL, FACW, o	ecies / O	(A/B)
Saoling/Shrub Stratum (Plot size:	.)				(/40)
12 12 bus spectabil	<u> </u>	Pr	evalence Index worl		
2		—— 	Total % Cover of:		
3.			SL species	×1*	
5.				x3=	
j	= T		CU species		
erb Stratum (Plot size:)		1 110		x5=	
Lysich Am ans ".	<u> </u>	(1) 13 EL	ilumn Totals:		(B)
3			Prevalence Index	= B/A =	
			drophytic Vegetatio		
5			Dominance Test is	>50%	
1			Dominance Test is Prevalence Index is	>50% : ≼3.0¹	
5			Dominance Test is Prevalence Index is Morphological Adap	>50% : ≼3.0¹	pporting eat)
5			Dominance Test is Prevalence Index is Morphological Adap	>50% : ≤3.0° etations ^t (Provide su : or on a separate sh	pporting eet)
1			Dominance Test is Prevalence Index is Morphological Ada data in Remarks	>50% : ≤3.0³ otations¹ (Provide su : or on a separate sh ılar Plants¹	eet)
1			Dominance Test is Prevalence Index is Morphological Ada; data in Remerks Wetland Non-Vasco Problematic Hydrogidicators of hydric soil	>50% \$3.0' plations' (Provide su or on a separate sh plate Plants' phytic Vegetation' (E and welland hydrok	eet) xpiain) ogy must
1		in be	Dominance Test is Prevalence Index it Morphological Ada; data in Remarks Wetland Non-Vasci Problematic Hydros	>50% \$3.0' plations' (Provide su or on a separate sh plate Plants' phytic Vegetation' (E and welland hydrok	eet) xplain) ogy must
4	= Ti	in be	Dominance Test is Prevalence Index is Morphological Ada; data in Remerks Wetland Non-Vasco Problematic Hydrogidicators of hydric soil	>50% \$3.0' plations' (Provide su or on a separate sh plate Plants' phytic Vegetation' (E and welland hydrok	eet) xpiain) ogy must
4. 5. 5. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	× 71	olal Cover	Dominance Test is Prevalence Index it Morphological Ada; data in Remarks Wetland Non-Vasco Problematic Hydros didicators of hydric soil present, unless distu-	>50% \$3.0' plations' (Provide su or on a separate sh plate Plants' phytic Vegetation' (E and welland hydrok	eet) xpiain) ogy must
4	= 71	otal Cover Hy	Dominance Test is Prevalence Index is Morphological Ada; data in Remerks Wetland Non-Vasci. Problematic Hydrogoldicators of hydric soil present, unless distu- rdrophytic gestation	>50% is3.0° bations' (Provide su or on a separate sh alar Plants' shytic Vegetation' (E and welland hydrok rbed or problematic.	eet) xplain) ogy must
4. 5. 5. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	× T	otal Cover Hy	Dominance Test is Prevalence Index it Morphological Ada; data in Remarks Wetland Non-Vasco Problematic Hydros didcators of hydric soil present, unless distu-	>50% \$3.0' plations' (Provide su or on a separate sh plate Plants' phytic Vegetation' (E and welland hydrok	eet) xplain) ogy must

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		· · · · · · · · · · · · · · · · · · ·
Type: C=Concentration, D=Depletion, RM=Reduced Ma	rix, CS=Covered or Coated Sand C	Grains. *Location: PL=Pore Lining, M=Matrix.
Hydrig Soil Indicators: (Applicable to all LRRs, unless		Indicators for Problematic Hydric Solls ¹ :
Histosol (A1) Sandy R		2 cm Muck (A10)
Histic Epipedon (A2) Stripped		Red Parent Material (TF2)
	lucky Mineral (F1) (except MLRA 1	1) Other (Explain in Remarks)
Hydrogen Sulfide (A4) Loamy G	leyed Matrix (F2)	
Depleted Below Dark Surface (A11) Depleted	Matrix (F3)	
Thick Dark Surface (A12) Redox D	ark Surface (F6)	3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Depleted	Dark Surface (F7)	wetland hydrology must be present,
	epressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks: YDROLOGY	·····	
		,
YDROLOGY	at apply)	Secondary Indicators (2 or more resuited)
YDROLOGY Watland Hydrology Indicators: Primsny Indicators (minimum of one required, sheck all th	at apply) er-Stained Leaves (B9) (except Mi	
YDROLOGY Wetland Hydrology Indicators: Primery Indicators (minimum of one required: sheek all th Surface Water (A1) Wa		
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; sheck all th Surface Water (A1) Ws High Water Table (A2)	er-Stained Leaves (B9) (except MI	LRA Water-Stained Leaves (89) (MLRA 1.
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) Wa High Water Table (A2) Saturation (A3) Sati	er-Stained Leaves (B9) (except MI i, 2, 4A, and 4B)	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; sheck all th Surface Water (A1) Wa High Water Table (A2) Saluration (A3) Saluration (A3) Aq.	er-Stained Leaves (B9) (except Mi i, 2, 4A, and 4B) Crust (B11)	LRAWater-Steined Leaves (B9) (MLRA 1,
YDROLOGY Wetland Hydrology Indicators: Perlmary Indicators (minimum of one required; sheck all th Surface Water (A1) Wa High Water Table (A2) Saturation (A3) Sall Water Marks (B1) Aqu Sediment Deposits (B2) Hydrology	er-Stained Leaves (B9) (except MI I, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sulfide Odor (C1)	LRA Water-Stained Leaves (89) (MLRA 1, 4A, and 4B) Drainage Patterns (810)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) Watlace Water (A1) Watlace Water (A2) Saturation (A3) Sati Water Marks (B1) Aqq Water Marks (B1) Aqq Drift Deposits (B2) Hydrologic (B2) Drift Deposits (B3) Oxi	er-Stained Leaves (B9) (except MI I, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sulfide Odor (C1)	LRA Water-Stained Leaves (89) (MLRA 1. 4A, and 4B) Dreinage Petterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
YDROLOGY Wetland Hydrology Indicators: Primsry Indicators (minimum of one required; check all the Surface Water (A1)	er-Stained Leaves (B9) (except MI i, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sullide Odor (C1) dized Rhizospheres along Living Ro	LRA Water-Stained Leaves (BB) (MLRA 1. 4A, and 4B) — prainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (coots (C3) — Geomorphic Position (D2) — Shallow Aquitard (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; sheck all the surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (81) Sediment Deposits (B2) Drift Deposits (B3) Algal Mart or Crust (B4) I con Deposits (B5) Rec	er-Stained Leaves (89) (except Mil., 2, 4A, and 4B) Crust (811) alic Invertebrates (813) rogen Sulfide Odor (C1) dized Rhizospheres along Living Rosenso of Reduced Iron (C4)	LRA Water-Stained Leaves (89) (MLRA 1. 4A, and 4B)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Sature Marks (B1) Acqu Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Seturace Soil Cracks (B6)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) And the stain content of the st	LRA Water-Stained Leaves (89) (MLRA 1. 4A, and 4B)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Acqu Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Sturface Soil Cracks (B6)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sulfide Odor (C1) sitzed Rhitzospheres along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soils (C tited or Stressed Plants (D1) (LRR.	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) Dreinage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Solots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required, check all the Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sadiment Deposits (B2) Unit Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B8) Inundation Visible on Aerial Insgery (B7) Other	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sulfide Odor (C1) sitzed Rhitzospheres along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soils (C tited or Stressed Plants (D1) (LRR.	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) Dreinage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Solots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (81) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Adrial Imagery (B7) Sparaely Vegetated Concave Surface (B8) Field Observations:	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) rogen Sulfide Odor (C1) sitzed Rhitzospheres along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soils (C tited or Stressed Plants (D1) (LRR.	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) Dreinage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Solots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required, check all Insurance Water (A1) Surface Water (A1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparaely Vegetated Concave Surface (B8) Field Observations: Surface Water Present?	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) 1, 2, 4A, and 4B) alic Invertebrates (B13) ropen Sulfide Odor (C1) stilled Rhizospheres along Living Rosence of Reduced Iron (C4) enti Iron Reduction in Tilled Soils (C tated or Stressed Plants (C1) (LRR. er (Explain in Remarks)	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) Dreinage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Solots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: pheck all the Surface Water (A1)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic invertebrates (B13) ropen Suffice Odor (C1) stated Rhizospheres along Living Rosense of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C nted or Stressed Plants (D1) (LRR. or (Explain in Remarks)	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) — Dreinage Petterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (cots (C3)) — Ceomorphic Position (D2) — Shallow Aquitard (D3) — FAC-Neutral Test (D5) — Raised Ant Mounds (D8) (LRR A) — Frost-Heave Hummocks (D7)
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Adrial Imagery (B7) Sparraty Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No De Saturation Present? Yes No De	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic invertebrates (B13) ropen Suffice Odor (C1) stated Rhizospheres along Living Rosense of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C nted or Stressed Plants (D1) (LRR. or (Explain in Remarks)	LRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) Dreinage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Solots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: pheck all the Surface Water (A1)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) ropen Sulfide Odor (C1) alic Invertebrates along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C tited or Stressed Plants (O1) (LRR.er (Explain in Remarks) pth (Inches):	LRA
YDROLOGY Wetland Hydrology Indicators: Primsry Indicators (minimum of one required; check all the Surface Water (A1)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) ropen Sulfide Odor (C1) alic Invertebrates along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C tited or Stressed Plants (O1) (LRR.er (Explain in Remarks) pth (Inches):	LRA
YDROLOGY Wetland Hydrology Indicators: Primsry Indicators (minimum of one required; check all the Surface Water (A1)	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) ropen Sulfide Odor (C1) alic Invertebrates along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C tited or Stressed Plants (O1) (LRR.er (Explain in Remarks) pth (Inches):	LRA
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Satiration (A3) Saturation (A3) Saturation (A3) Saturation (A3) Water Marks (B1) Adqu Hydrologist (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegeletted Concave Surface (B8) Field Observations: Surface Water Present? Yes No De Saturation Present? Yes No De Saturation Present? Yes No De Soluration Present? Yes No De Concave Careford (Indicators) Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes No De Concave Careford (Indicators) De Soluration Present? Yes Saturation Present? Yes No De De Describe Recorded Data (stream gauge, monitoring well.	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) ropen Sulfide Odor (C1) alic Invertebrates along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C tited or Stressed Plants (O1) (LRR.er (Explain in Remarks) pth (Inches):	LRA
YDROLOGY Watland Hydrology Indicators: Primary Indicators (minimum of one required, sheck all the Surface Water (A1) High Water Table (A2) Saturation (A3) Satiration (A3) Saturation (A3) Saturation (A3) Saturation (A3) Water Marks (B1) Adqu Hydrologist (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegeletted Concave Surface (B8) Field Observations: Surface Water Present? Yes No De Saturation Present? Yes No De Saturation Present? Yes No De Soluration Present? Yes No De Concave Careford (Indicators) Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes No De Concave Careford (Indicators) De Soluration Present? Yes Saturation Present? Yes No De De Describe Recorded Data (stream gauge, monitoring well.	er-Stained Leaves (B9) (except MI, 2, 4A, and 4B) Crust (B11) alic Invertebrates (B13) ropen Sulfide Odor (C1) alic Invertebrates along Living Rosence of Reduced Iron (C4) ent Iron Reduction in Tilled Soits (C tited or Stressed Plants (O1) (LRR.er (Explain in Remarks) pth (Inches):	LRA

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			ntains, Valleys, and Coast Region
roject/Site: Smaho Parks - We			
pplicant/Owner: Suphumida Co.	Pully		State: WA Sampling Point: DP-I
rvestigator(s): Ed Sewall	Sec	tion, Township, Rar	nge: 535 T 27N RSE
andform (hillstope, terrace, etc.):			convex, none): Slope (%);
ubregion (LRR):	Lai:		Long: Datum:
oil Map Unit Name: Aldners	4		NWI classification:
re climatic / hydrologic conditions on the site typical for		Yes No	(If no, explain in Remarks.)
re Vegetation, Soil or Hydrology	_ significantly dist	urbed? Are *	Normal Circumstances* present? Yes No
re Vegetation Soil or Hydrology			eded, explain any answers in Remarks.)
HIMMARY OF EINDINGS Attach site m	n ekowina es	mpling point k	ocations, transects, important features, etc.
ONIMART OF FINDINGS - Attach site ma	ip snowing sa	inpining point it	Canons, transects, important reatures, stc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	No No	is the Sampled within a Wetlan	,
EGETATION Use scientific names of pl	ants.		
Tree Stratum (Plot size:)		ominant Indicator recies? Status	Dominance Test worksheet:
1. Alway rate	THE STATE OF	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
			Total Number of Dominant
3.			Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	= 7	otal Cover	That Are OBL, FACW, or FAC: (A/B)
1. 12 15 5 5 co che h-3 5		FAC	Prevalence Index worksheet:
2 Aus circinating		FAL	Total % Cover of: Multiply by:
3			OBL species x 1 #
4			FACW species x2 =
5			FAC species x 3 =
Herb Stratum (Plot size;	= = T	otal Cover	FACU species
Athrong File Am	.	FAC	Column Totals: (A) (B)
·			Contras Totalas (A)
3			Prevalence Index = B/A =
I			Hydrophytic Vegetation Indicators:
5-			Dominance Test is >50% Prevalence Index is ≤3.01
3			Morphological Adaptations (Provide supporting
7. B.			data in Remarks or on a separate sheet)
)			— Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation (Explain)
11.			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= T-	otal Cover	
Woody Vine Stratum (Plot size:)			thurse white
1			Hydrophytic Vegetation
2	* T	otal Cover	Present? Yes No No
	# I	Orac COAGL	1
% Bare Ground in Herb Stratum			

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Depth Matrix	Redox Features	
(inches) Color (moist)	% Color (moist) % Type' Loc	Texture Remarks
10 10/22/1		Afenc peal
110 1011211		454
		_ _
		nd Grains. ⁷ Location: PL=Pore Lining, M=Matrix.
	letion, RM=Reduced Matrix, CS=Covered or Coated San	Indicators for Problematic Hydric Soils ¹ :
	able to all LRRs, unless otherwise noted.)	
Historio (A1)	Sandy Redox (S5)	2 cm Muck (A10) Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR	(A 1) Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface		³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7) Redox Depressions (F8)	unless disturbed or problematic.
Sandy Gleyed Matrix (S4)	Redox Depressions (FG)	griess distince or productibile.
Restrictive Layer (if present):		
Туре:		Hydric Soil Present? Yes No.
		Hydric Soil Present? Yes No
Depth (inches):		
Remarks:		
Permarks:		
Remarks: YDROLOGY Welfand Hydrology Indicators:	ne required; check all that apply)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Welfand Hydrology Indicators:		
YDROLOGY Yetland Hydrology Indicators: Primery Indicators (minimum of a	ne required; check all that apply)	
YDROLOGY Wetland Hydrology Indicators: Primerr Indicators (minimum of a Surface Water (A1) High Water Table (A2)	ne required; check all that apply) Water-Stained Leaves (B9) (except	MLRA Water-Stained Leaves (B9) (MLRA 1, 2
YDROLOGY Veitland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3)	ne required: check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11)	MLRA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) Drainage Patterns (810)
YDROLOGY Welfand Hydrology Indicators: Primery Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saluration (A3) Water Marks (B1)	ne required; check all that apply) Mater-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Self Crust (B11) Aquatic Invertebrates (B13)	MLRA Water-Stained Leaves (89) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vettand Hydrology Indicators: **rimer* Indicators (minimum of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	MLRA Water-Stained Leaves (BS) (MLRA 1. 4.4, and 4.8) Orainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
YDROLOGY Veitland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	MLRA Water-Stained Leaves (BS) (MLRA 1. 4A, and 4B) Drainage Petterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C 1) Roots (C3) Geomorphic Position (D2)
YDROLOGY Veitand Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Orift Deposits (B3) Algal Mat or Crust (B4)	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	MLRA Water-Stained Leaves (B8) (MLRA 1. 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shellow Aquitard (D3)
YDROLOGY Vettand Hydrology Indicators: rimer Indicators (minimum of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5)	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Self Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced fron (C4) Recent Iron Reduction in Tifled Solit	MLRA Water-Stained Leaves (BS) (MLRA 1. 2 4.4, and 4.8) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5)
YDROLOGY Veitand Hydrology Indicators: rimary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6)	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reductor in Tilled Solit Stunted or Stressed Plants (01) (LF	MLRA Water-Stained Leaves (89) (MLRA 1. 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) a (C6) FAC-Neutral Test (D5) Reliaed Ant Mounds (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: **rimary Indicators (minimum of o **Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial I	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Solit Stunted or Stressed Plants (D1) (LF	MLRA Water-Stained Leaves (BS) (MLRA 1. 4A, and 4B) Orainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C G Geomorphic Position (D2) Shallow Aquisted (D3) s (C6) FAC-Neutral Test (D5)
YDROLOGY Vettand Hydrology Indicators: **rimar** Indicators (minimum of o **Surface Water (A1) High Water Table (A2) **Saturation (A3) Water Marks (B1) **Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial I Sparsaly Vegetated Concave	ne required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Solit Stunted or Stressed Plants (D1) (LF	MLRA Water-Stained Leaves (BS) (MLRA 1. 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) a (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Vettand Hydrology Indicators: **rimer* Indicators (minimum of of of surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial I Sparsely Vegetated Concave Field Observations:	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduction in Titled Solit Stunted or Stressed Plants (D1) (LF magery (B7) Other (Explain in Remarks)	MLRA Water-Stained Leaves (BS) (MLRA 1. 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) a (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wetfand Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Viaible on Aerial I Sparsely Vegetated Concave field Observations: Surface Water Present? Y	me required; check all that apply) Water-Stained Leaves (89) (except 1, 2, 4A, and 4B) Sett Crust (811) Aquatic Invertebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reducted from (C4) Recent Iron Reduction in Titled Solit Sturted or Stressed Plants (D1) (LF magery (87) Other (Explain in Remarks) Surface (88)	MLRA Water-Stained Leaves (BS) (MLRA 1. 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) a (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D8) (LRR A)
YDROLOGY Wettand Hydrology Indicators: **rimary Indicators (minimum of o **Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Viaible on Aerial I Sparsely Vegetated Concave **Field Observations: Surface Water Present? Yeter Table Present? Yeter Table Present?	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks) surface (B8)	MLRA Water-Stained Leaves (89) (MLRA 1. 2 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydrology Indicators: **rimer* Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial I Sparsely Vegetated Concave **Field Observations:** Surface Water Present? Y Nater Table Present? Y Saturation Present? Y	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Self Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit, Stunted or Stressed Plants (D1) (LF 5) Sturted or Stressed Plants (D1) (LF 5) Surface (B8) Bo Depth (Inches): Depth (Inches):	MLRA
YDROLOGY Netland Hydrology Indicators: rimary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial i Spansely Vegetated Concave Field Observations: Surface Water Present? Yater Table Present? Yater Table Present? Yaturation Present?	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks) surface (B8) Depth (inches): Depth (inches):	MLRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C — Second Political (D3) — (C3) — Shallow Aquitard (D3) — (C6) — FAC-Neutral Test (D5) — Raised Ant Mounds (D6) (LRR A) — Frost-Heave Hummocks (D7) Wetland Hydrology Present?
YDROLOGY Netland Hydrology Indicators: rimary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial i Spansely Vegetated Concave Field Observations: Surface Water Present? Yater Table Present? Yater Table Present? Yaturation Present?	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks) surface (B8)	MLRA Water-Stained Leaves (B9) (MLRA 1. 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C — Second Political (D3) — (C3) — Shallow Aquitard (D3) — (C6) — FAC-Neutral Test (D5) — Raised Ant Mounds (D6) (LRR A) — Frost-Heave Hummocks (D7) Wetland Hydrology Present?
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YDROLOGY Netland Hydrology Indicators: rimary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) (ron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial i Spansely Vegetated Concave Field Observations: Surface Water Present? Yater Table Present? Yater Table Present? Yaturation Present?	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks) surface (B8) Depth (inches): Depth (inches):	t MLRA Water-Stained Leaves (89) (MLRA 1. 2 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of of office of the control	me required; check all that apply) Water-Stained Leaves (B9) (except 1, 2, 4A, and 4B) Sett Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solit Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks) surface (B8) Depth (inches): Depth (inches):	t MLRA Water-Stained Leaves (89) (MLRA 1. 2 4A, and 4B) Drainage Patterns (810) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Reised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

US Army Corps of Engineers



SOIL

rojecusine: Smoh. Parky - Wellow	A Part City/County 5 ~	Johansh Co Sampling Date: 3-	23
pplicant/Owner: Suphumida Cor Pa			3
nvestigator(s):	Section Township Re	ange: 535 T 27N 7251	<u>. </u>
andform (hillstope, terrace, etc.):			
uhragion (I PP):	Lat:		
oil Map Unit Name: Aldmared		NWI classification:	
re climatic / hydrologic conditions on the site typical for this t			
re Vegetation, Soil or Hydrologysig		*Normal Circumstances" present? Yes No.	
re Vegetation Soil, or Hydrology nat		eeded, explain any enswers in Remarks.)	
UMMARY OF FINDINGS - Attach site map si		locations, transects, important features,	etc.
Hydrophytic Vegetation Present? Yes No.	Is the Sample		
Hydric Soil Present? Yes	within a Wetla	//	
Wetland Hydrology Present? Yes No			
Remarks:			
EGETATION - Use scientific names of plants			
	Absolute Dominant Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species	
		That Are OBL, FACW, or FAC:	(A)
2		Total Number of Dominant	
·		Species Across Ali Strata:	B)
	≖ Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	
Sapling/Shrub Stratum (Plot size:)	(OLS) COYE!	That Are OBL, FACW, or FAC:	(A/B)
1		Prevalence index worksheet:	
2		Total % Cover of: Multiply by:	
9		OBL species x 1 *	
4		FACW species x 2 =	
·	= Total Cover	FACU species x 4 =	
Herb Stratum (Plot size:)	1	/UPL species x 5 =	
1. Ranually repros		Column Totals: (A)	(B)
2		.	
3		Prevalence Index = B/A = Hydrophytic Vegetation indicators:	
·		Dominance Test is >50%	
5		Prevalence Index is ≤3.01	
7.		Morphological Adaptations¹ (Provide supporting	ng
3.		data in Remarks or on a separate sheet)	
9.		Wetland Non-Vascular Plants* Problematic Hydrophytic Vegetation* (Explain)	
10.		*Indicators of hydric soil and wetland hydrology mu	
11		be present, unless disturbed or problematic.	-41
	= Total Cover		
		1	
Woody Vine Stratum (Plot size:)		Hydrophytic	
Woody Vine Stratum (Plot size:) 1		Hydrophytic Vegetation	
Woody Vine Stratum (Plot size:) 1. 2.	# Total Cover		

Western Mountains, Valleys, and Coast - Interim Version

US Army Corps of Engineers

Depth <u>Matrix</u>		Redox Feature	<u> </u>			Dames .	
inches) Color (moist)	<u> </u>	Color (moist)	Type Loc	Texture		Remarka	
16 104nz/	Z	cmo					
	···						

Type: C=Concentration, D=De	enletion RM=Re	duced Matrix, CSaCovered	or Coated Sand	Grains 3	Location: PL=	Pore Linina, M	l=Matrix.
lydric Soli Indicators: (Appl					ators for Prob		
		Sandy Redox (S5)	,		cm Muck (A1		
Histosol (A1) Histosol (A2)		Stripped Matrix (S6)			Red Parent Ma		
Black Histic (A3)		Loamy Mucky Mineral (F	I) (except MLRA		Other (Explain		
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2		',		.,	
Depleted Below Dark Surfa		Depleted Matrix (F3)	•				
Thick Dark Surface (A12)	- La (A11)	Redox Dark Surface (F6)		3Indio	ators of hydro	phytic vegetati	on and
Sandy Mucky Mineral (S1)		Depleted Dark Surface (F	7)	w	etland hydrolog	y must be pre	sent,
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)	- 1	ur	ileas disturbed	or problemati	c
lestrictive Layer (if present):	:		······································			7	***************************************
Туре:				1			
Depth (inches):	·	•		Hudde 9	oil Present?	٧,	Ma
Remarks:						,	
YDROLOGY						-	
YDROLOGY Vetland Hydrology Indicator		pack all that applied			arondary Indica		fheritoes e
YDROLOGY Vetland Hydrology Indicator frimary Indicators (minimum o					condary Indice		
YDROLOGY Yetland Hydrology Indicator Primary Indicators (minimum o Surface Water (A1)		Water-Stained Leav			Water-Stains	d Leaves (B9	
YDROLOGY Vetland Hydrology Indicator Viginary Indicators (minimum of Surface Water (A1) High Water Table (A2)		Water-Stained Leav 1, 2, 4A, and 4B		ILRA	_ Water-Stains 4A, and 4	d Leaves (B9 B)	
YDROLOGY Vettand Hydrology Indicator rimary Indicators (minimum o: Surface Water (A1) High Water Table (A2) Saturation (A3)		Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11))	ILRA	Water-Stains 4A, and 4 Drainage Pa	rd Leaves (B9 IB) Iterns (B10)) (MLRA 1, 2
YDROLOGY Veitand Hydrology Indicator Veirnary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		Water-Stained Leav 1, 2, 4A, and 4B Saft Crust (B11) Aquatic Invertebrate	s (B13)	ILRA	Water-Stains 4A, and 4 Drainage Pa Dry-Season	rd Leaves (B9 B) tterns (B10) Water Table () (MLRA 1, 2 02)
YDROLOGY Yetland Hydrology Indicator rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or	s (B13) dor (C1)	ILRA	Water-Stains 4A, and 4 Drainage Pa Dry-Season Saturation Vi	d Leaves (B9 B) Itterns (B10) Water Table (isible on Aeria) (MLRA 1, 2 02)
YDROLOGY Vestand Hydrology Indicator frimary Indicators (minimum o' Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (81) Sediment Deposits (B2) Drift Deposits (B3)		Water-Stained Leav 1, 2, 4A, and 4B Self Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe	s (B13) dor (C1) res along Living F	Roots (C3)	Water-Stains 4A, and 4 Drainage Pa Dry-Season Saturation Vi	nd Leaves (B9 (B) tterns (B10) Water Table (4 isible on Aeria Position (D2)) (MLRA 1, 2 02)
YDROLOGY Yetland Hydrology Indicator rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		Water-Stained Leav 1, 2, 4A, and 4B Saft Crust (B11) Aquatic Invertebrate Hydrogen Suffide Or Oxidized Rhizosphe Presence of Reduce	s (B13) dor (C1) res along Living F ad Iron (C4)	Raots (C3)	Water-Stains 4A, and Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu	d Leaves (B9) B) Itterns (B10) Water Table (4) isible on Aeria Position (D2)) (MLRA 1, 2 02)
YDROLOGY Vestand Hydrology Indicator frimary Indicators (minimum o' Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (81) Sediment Deposits (B2) Drift Deposits (B3)		Water-Stained Leav 1, 2, 4A, and 4B Self Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe	s (B13) dor (C1) res along Living F ad Iron (C4)	Raots (C3)	Water-Stains 4A, and 4 Drainage Pa Dry-Season Saturation Vi	d Leaves (B9) B) Itterns (B10) Water Table (4) isible on Aeria Position (D2)) (MLRA 1, 2 02)
YDROLOGY Vetland Hydrology Indicator rignary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		Water-Stained Leav 1, 2, 4A, and 4B Saft Crust (B11) Aquatic Invertebrate Hydrogen Suffide Or Oxidized Rhizosphe Presence of Reduce	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soils	Roots (C3)	Water-Stains 4A, and 4 Drainage Pai Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral	d Leaves (B9) B) Itterns (B10) Water Table (4) isible on Aeria Position (D2)) (MLRA 1, 2 C2) I Imagery (C
YDROLOGY Yetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Iron Deposits (B4) Iron Deposits (B4)	f one required; cl	Water-Stained Leav 1, 2, 4A, and 4B Saft Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soits Ptants (D1) (LRF	CO8)	Water-Stains 4A, and 4 Drainage Pai Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral	d Leaves (B9) B) Itterns (B10) Water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) flounds (D6) (I) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vestand Hydrology Indicator virinary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	t one required; cl	Water-Stained Leav 1, 2, 4A, and 4B, Selt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soits Ptants (D1) (LRF	CO8)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aque FAC-Neutral Raised Ant 8	d Leaves (B9) B) Itterns (B10) Water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) flounds (D6) (I) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vetland Hydrology Indicator rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeris	t one required; cl	Water-Stained Leav 1, 2, 4A, and 4B, Selt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soits Ptants (D1) (LRF	CO8)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aque FAC-Neutral Raised Ant 8	d Leaves (B9) B) Itterns (B10) Water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) flounds (D6) (I) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Veitand Hydrology Indicator Veitand Hydrology Indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposite (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparaely Vegelated Conce.	t one required; cl	Water-Stained Leav 1, 2, 4A, and 4B Selt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct Stunted or Stressed Other (Explain in Re	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soits Ptants (D1) (LRF	CO8)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aque FAC-Neutral Raised Ant 8	d Leaves (B9) B) Itterns (B10) Water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) flounds (D6) (I) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Veitand Hydrology Indicator rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposite (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Concribied Observations: Burface Water Present?	al Imagery (B7)	Water-Stained Leav 1, 2, 4A, and 4B Salf Crust (811) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct Sunted or Stressed Other (Explain in Re	s (B13) dor (C1) res along Living F ad Iron (C4) on in Tilled Soits Ptants (D1) (LRF	CO8)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aque FAC-Neutral Raised Ant 8	d Leaves (B9) B) Itterns (B10) Water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) flounds (D6) (I) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vetland Hydrology Indicator rignary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aarla Sparsaly Vegetated Concertication Field Observations: Surface Water Present?	al Imagery (B7) ave Surface (B8) Yes No	Water-Stained Leav 1, 2, 4A, and 4B Selt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oi Oxidized Rhizosphe Presence of Reducet Recent Iron Reducti Stunted or Stressed Other (Explain in Re	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Solls Plants (D1) (LRF imarks)	ALRA	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral Reiaed Ant N Froat-Heave	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vestand Hydrology Indicator rimary Indicators (minimum o' Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeris Sparsely Vegelated Conce Teld Observations: Furface Water Present?	al Imagery (B7)	Water-Stained Leav 1, 2, 4A, and 4B Selt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oi Oxidized Rhizosphe Presence of Reducet Recent Iron Reducti Stunted or Stressed Other (Explain in Re	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Solls Plants (D1) (LRF imarks)	ALRA	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aque FAC-Neutral Raised Ant 8	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vetland Hydrology Indicator rignary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aarla Sparsaly Vegetated Concertication Field Observations: Surface Water Present?	al Imagery (B7) ave Surface (B8) Yes No Yes No	Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stressed Other (Explain in Re Depth (inches): Depth (inches):	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Soils Plants (D1) (LRF marks)	Roots (C3) (C8) L A)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral Reised Ant N Frost-Heave	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vetland Hydrology Indicator rignary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aarla Sparsaly Vegetated Concertication Field Observations: Urface Water Present? Vater Table Present?	al Imagery (B7) ave Surface (B8) Yes No Yes No	Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stressed Other (Explain in Re Depth (inches): Depth (inches):	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Soils Plants (D1) (LRF marks)	Roots (C3) (C8) L A)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral Reised Ant N Frost-Heave	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C LRR A)
YDROLOGY Vetland Hydrology Indicator rignary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aarla Sparsaly Vegetated Concertication Field Observations: Urface Water Present? Vater Table Present?	al Imagery (B7) ave Surface (B8) Yes No Yes No	Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stressed Other (Explain in Re Depth (inches): Depth (inches):	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Soils Plants (D1) (LRF marks)	Roots (C3) (C8) L A)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral Reised Ant N Frost-Heave	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C
YDROLOGY Vestand Hydrology Indicator rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Drift Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeris Sparsely Vegetated Conce ield Observations: Surface Water Present? Vater Table Present? saturation Present? includes capillary fringe) Describe Recorded Data (streat	al Imagery (B7) ave Surface (B8) Yes No Yes No	Water-Stained Leav 1, 2, 4A, and 4B Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stressed Other (Explain in Re Depth (inches): Depth (inches):	s (B13) dor (C1) res along Living F dd Iron (C4) on in Tilled Soils Plants (D1) (LRF marks)	Roots (C3) (C8) L A)	Water-Staine 4A, and 4 Drainage Pa Dry-Season Saturation Vi Geomorphic Shallow Aqu FAC-Neutral Reised Ant N Frost-Heave	d Lesves (B9, B) tterns (B10) water Table (4 isible on Aeria Position (D2) iterd (D3) Test (D5) founds (D6) (I Hummocks (D) (MLRA 1, 2 02) I Imagery (C LRR A)

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: welligta Hbbs		City/County: SA	whon, sh Sampling Date: 8-	7 – 1
Applicant/Owner:	***************************************		State: Sampling Point: DP	
_ , _ , .			inge:	***************************************
Landform (hillslope, terrace, etc.):		•		***************************************
Subregion (LRR):				
Soil Map Unit Name:				
Are climatic / hydrologic conditions on the site typical fo				***************************************
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No	
Are Vegetation Soil, or Hydrology	/		eeded, explain any answers in Remarks.)	***************************************
SUMMARY OF FINDINGS - Attach site m				, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Yes	No No	Is the Sample within a Wetla	d Area nd? Yes No	Patterna
Remarks: Moved + soils	לישניוניו	6× 9-	15 course equipment.	
VEGETATION – Use scientific names of p		S	I Danisana Tarkan kahasa	
<u>Tree Stratum</u> (Plot size:) 1		Dominant Indicator Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:	(A)
2. 3.		3000-000-000-000-000-000-000-000-000-00	Total Number of Dominant Species Across All Strata:	(B)
4		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
1.			Prevalence index worksheet:	
2.			Total % Cover of: Multiply by:	
3			OBL species x1=	
45		<u> </u>	FACW species x 2 = FAC species x 3 =	
<u> </u>		= Total Cover	FACU species x 4 =	
Herb Stratum (Plot size:)			UPL species x 5 =	
1. Holers lowers	30	FAL	Column Totals: (A)	(B)
2. Famoreolos repos 3. Agrestis Spp		FACW FAC	Prevalence Index = B/A =	
4			Hydrophytic Vegetation Indicators:	-
5			Dominance Test is >50%	
6			Prevalence Index is ≤3.0¹	
7.			Morphological Adaptations¹ (Provide supporting	1g
8			data in Remarks or on a separate sheet) Wetland Non-Vascular Plants¹	
9,			Problematic Hydrophytic Vegetation¹ (Explain)	`
10			Indicators of hydric soil and wetland hydrology mu	
11		= Total Cover	be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)	-			
1,			Hydrophytic Vegetation	
2.		- Test Course	Present? Yes No No	
% Bare Ground in Herb Stratum		= Total Cover		
Remarks:	·			

Sampling Point:	Þ٢	K-	ļ
Sampling Point:	ا ما	,	

		to the depth n	eeded to document the indicator or o	confirm the a	absence	of indicators.)
Depth (inches)	Matrix Color (moist)	 %	Redox Features Color (moist) % Type ¹ L	nc ² Te	exture	Remarks
((10 YR 2/2				ZALUIE	a-aully lan
- 	NYAZIZ	<u> </u>				
14	10 11-616	-	deple to-5			
			www.mananananananananananananananananananan			
		DOI: 111111111111111111111111111111111111				
l						

				·····		
		<u> </u>	duced Matrix, CS=Covered or Coated S			ation: PL=Pore Lining, M=Matrix.
1	, , ,	cable to all LRF	ls, unless otherwise noted.)			rs for Problematic Hydric Soils ³ :
Histoso	• •		Sandy Redox (S5)			Muck (A10)
_	pipedon (A2) listic (A3)		Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except ML	DA 4)		Parent Material (TF2) r (Explain in Remarks)
1	en Sulfide (A4)	**CONTRACTOR OF THE CONTRACTOR	Loamy Gleyed Matrix (F2)	LRM I)	Othe	(Explain in Remarks)
	ed Below Dark Surfa	ce (A11)	Depleted Matrix (F3)			
	ark Surface (A12)		Redox Dark Surface (F6)		3Indicator	rs of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark Surface (F7)			nd hydrology must be present,
Sandy	Gleyed Matrix (S4)		Redox Depressions (F8)		unless	s disturbed or problematic.
Restrictive	Layer (if present):					
Type:			•			,
Depth (in	nches):		-	Hyd	dric Soil	Present? Yes No
Remarks:				····	*****	
HYDROLO	VGY	·····				
p					*******	
	rdrology Indicators		ack all that applied		C	dan Indicator (2 or mare consisted)
	cators (minimum of	one required, cri				dary Indicators (2 or more required)
1	· Water (A1) ater Table (A2)		Water-Stained Leaves (B9) (exce	PR MLKA	W	ater-Stained Leaves (B9) (MLRA 1, 2,
	, ,		1, 2, 4A, and 4B)		D.	4A, and 4B)
Saturati	farks (B1)		Salt Crust (B11)			rainage Patterns (B10)
l .			Aquatic Invertebrates (B13)			y-Season Water Table (C2)
1	nt Deposits (B2) posits (B3)		Hydrogen Sulfide Odor (C1)	na Dania (C3		aturation Visible on Aerial Imagery (C9)
1 —	at or Crust (B4)		 Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) 	ng noots (Co		eomorphic Position (D2)
_	posits (B5)		Recent Iron Reduction in Tilled Sc	nile (C6)		nallow Aquitard (D3) AC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or Stressed Plants (D1) (I	, ,		aised Ant Mounds (D6) (LRR A)
1	ion Visible on Aerial	Imagery (B7)	Other (Explain in Remarks)	witte 71/		ost-Heave Hummocks (D7)
	y Vegetated Concav					oot (18243) Iditariooko (21.)
Field Obser						
Surface Wat		res No	Depth (inches):			
Water Table		/es No _				,
Saturation P			Depth (inches):	Wottend Li	udralamı	Present? Yes No
	pillary fringe)	res NO_	Depth (inches).	welland n	yuruiugy	Present? resNo
		n gauge, monito	ring well, aerial photos, previous inspec	tions), if avai	lable:	tion to the state of the state
Remarks:				······································		
	. *					

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: welly to Hally	C	City/County: 5	whemish	Sampling Date: 8-7-)
A. V				Sampling Point: DP L-
			nge:	
Landform (hillslope, terrace, etc.):				
Subregion (LRR):				
Soil Map Unit Name:			NWI classifi	cation:
Are climatic / hydrologic conditions on the site typical for	this time of yea	r? YesNo_	(If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly d	listurbed? Are	"Normal Circumstances"	present? YesNo
Are Vegetation, Soil, or Hydrology	_ naturally prob	olematic? (If no	eeded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing	sampling point l	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Yes	No	Is the Sampled within a Wetla		No
Remarks: Smill depression		, ,	, 13 priza	ted + moved
VEGETATION – Use scientific names of pl				
<u>Tree Stratum</u> (Plot size:) 1,	% Cover	Dominant Indicator Species? Status	Number of Dominant S That Are OBL, FACW,	pecies
3.			Total Number of Domin Species Across All Stra	· · · · · · · · · · · · · · · · · · ·
4. Sapling/Shrub Stratum (Plot size:)		= Total Cover	Percent of Dominant S That Are OBL, FACW,	
1			Prevalence Index wo	ksheet:
2				Multiply by:
3			1	x 1 = x 2 =
5			1	x3=
		= Total Cover		x 4 =
Herb Stratum (Plot size:)	<i>L1</i> 5	ΕΛ/	UPL species	x5=
1. Holers lunates 2. Ephloboum collister	<u> 70</u> 20	FAIN	Column Totals:	(A)(B)
3. Paraceles Types	30	FACI	Prevalence Index	= B/A =
4.			Hydrophytic Vegetati	
5				>50%
6			Prevalence Index	
7				ptations ¹ (Provide supporting s or on a separate sheet)
8			Wetland Non-Vasc	
9			Problematic Hydro	phytic Vegetation ¹ (Explain)
11				il and wetland hydrology must
		Total Cover	be present, unless dist	urbed or problematic.
Woody Vine Stratum (Plot size:) 1			Hydrophytic	
2			Vegetation Ye Ye	s No
% Bare Ground in Herb Stratum	=	Total Cover		
Remarks:				

rofile Descri	ption: (Describe	to the dep	oth needed to document the inc	ticator or confirm	the absence	of indicators.)
epth _	Matrix		Redox Features		** **********************************	D
nches) _	Color (moist)	%	Color (moist) %	Type ¹ Loc ²	<u>Texture</u>	Remarks
<u>u</u>	104RZ).					
16	1042 3/2		_cmd			10mg sond
······································	······································				***************************************	
			***************************************	***************************************		

		-			***************************************	
`was C=Can	contration D=Da	alotion DAA	=Reduced Matrix, CS=Covered of	v Coated Sand Gr	raine 21 oc	ation: PL=Pore Lining, M=Matrix.
			LRRs, unless otherwise noted			rs for Problematic Hydric Soils ³ :
Histosol (A			Sandy Redox (S5)			Muck (A10)
_ Histic Epip	•		Stripped Matrix (S6)			Parent Material (TF2)
Black Histi			Loamy Mucky Mineral (F1)	(except MLRA 1)		er (Explain in Remarks)
	Sulfide (A4)		Loamy Gleyed Matrix (F2)			
_ Depleted E	Below Dark Surfac	æ (A11)	Depleted Matrix (F3)			
_ Thick Dark	Surface (A12)		Redox Dark Surface (F6)		³ Indicato	rs of hydrophytic vegetation and
	cky Mineral (S1)		Depleted Dark Surface (F7)	1		nd hydrology must be present,
	yed Matrix (S4)		Redox Depressions (F8)		unles	s disturbed or problematic.
estrictive La	yer (if present):					
					1	1
Туре:						
Depth (inch	es):				Hydric Soil	Present? Yes No
Depth (inche emarks:	es):Y				Hydric Soil	Present? Yes No
Depth (inche emarks: 'DROLOG' fetland Hydro	es): Y ology Indicators					
Depth (inche emarks: 'DROLOG fetland Hydro rimary Indicat	Y plogy Indicators cors (minimum of		d; check all that apply)		Secon	idary Indicators (2 or more required)
Depth (inche emarks: "DROLOG fetland Hydrorimary Indicat Surface Williams and set of the set of th	Y ology Indicators ors (minimum of a		d; check all that apply) Water-Stained Leaves	(B9) (except MLF	Secon	idary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
Depth (inchermarks: 'DROLOG etland Hydre imary Indicat Surface Wi High Water	Y ology Indicators ors (minimum of eater (A1) r Table (A2)		d; check all that apply) Water-Stained Leaves 1, 2, 4A, and 4B)	(B9) (except MLF	Secon	idary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Depth (inchermarks: "DROLOG" retland Hydrorimary Indicat Surface William Water Saturation	Y ology Indicators ors (minimum of cater (A1) r Table (A2) (A3)		d; check all that apply) Water-Stained Leaves 1, 2, 4A, and 4B) Salt Crust (B11)		<u>Secon</u>	idary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
Depth (inchermarks: DROLOG etland Hydro imary Indicat Surface W. High Water Saturation Water Mari	Y blogy Indicators ors (minimum of a ater (A1) r Table (A2) (A3) ks (B1)		d; check all that apply) Water-Stained Leaves 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secon	idary Indicators (2 or more required) (ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Depth (inche emarks: DROLOG Total Hydrorimary Indicat Surface W. High Water Saturation Water Mari	Y ology Indicators ors (minimum of oloter (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		d; check all that apply) Water-Stained Leaves 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor	B13)	Secon RA W Di Di Si	idary Indicators (2 or more required) later-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Depth (inche emarks: DROLOG Setland Hydro imary Indicat Surface W. High Water Saturation Water Mark Sediment I Drift Depos	Y plogy Indicators ors (minimum of a ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)		d; check all that apply) Water-Stained Leaves 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres	B13) r (C1) s along Living Roo	Secon RA	idary Indicators (2 or more required) (ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
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	Version 2 - Updated July 2006 to incr Updated Oct 2008 with the	RM – WESTERN WASHINGTON case accuracy and reproducibility among users new WDFW definitions for priority habitats	
Name of we	fland (if known): Wet	Date of site visit aimed by Ecology? Yes_No Date of	_{t:} 3
	315.11		
Rated by	Tr	ained by Ecology? Yes_No Date of	f traini
SEC: T	WNSHP: RNGE: Is S	T/R in Appendix D? Yes No	
	Map of wetland unit: Figur	e Estimated size	515
	SUMMA	RY OF RATING	
Category '	based on FUNCTIONS prov	ided by wetland	
	II III IV	•	
	· ·· ···		
		Score for Water Quality Functions	7
Category I	[= Score >=70 [I = Score 51-69	Score for Hydrologic Functions	4
	II = Score 30-50	Score for Habitat Functions	-1-
Category I	V = Score < 30	-	===
		TOTAL score for Functions	23
Category	based on SPECIAL CHARA	TOTAL score for Functions CTERISTICS of wetland	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the	TOTAL score for Functions CTERISTICS of wetland "highest" category from above)	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit	4
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit	4
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics of Estuarine	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class	4
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic infort Wetland Unit has Special Characteristics	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics to Estuarine Natural Heritage Wetland Bog	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest Coastal Lagoon	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope	23
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest Coastal Lagoon Interdunal	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats Freshwater Tidal	4
Category	based on SPECIAL CHARA II Does not Apply Final Category (choose the Summary of basic inform Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest Coastal Lagoon	TOTAL score for Functions CTERISTICS of wetland "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats	4

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Wetland name	or number

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands I hat May Need Additional Protection (In addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland	name	or	number	
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Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the endre unit being rated, you probably have a unit with multiple HGM classes. In this case, identify, which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?

NO - go to YES - the wetland class is Tidal Fringe

If yet, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.

Groundwater and surface water runoff are NOT sources of water to the unit.

NO-go to YES-Th

YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go-to 4>

YES - The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the entire wetland unit meet all of the following criteria?

- The wetland is on a slope (slope can be very gradual),
- The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

The water leaves the wetland without being impounded?

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually

<3ft diameter and less than I foot deep)

NO - go to

YES - The wetland class is Slope

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Vetland name or number	
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- 5. Does the entire wetland unit meet all of the following criteria?
 - ____ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7 YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO + go to 8 YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland name or number _____

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (paly I some per Don)
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)
s	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5%	(
s	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	•
S	S 1.3 Characteristics of the vegetation in the wetland that it as settiments and pollutants: Choose the points appropriate for the description that best flis the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than simples. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 0 Dense, uncut, herbaceous vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure
s	Total for S 1 Add the points in the boxes above	7
S	S 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150ft	(see p.67)
	- Untreated stormwater discharges to wetland - Tilled fields, logging, or orchards within 150 feet of wetland - Residential, urban areas, or golf courses are within 150 ft upslope of wetland - Other - YES multiplier is 2 NO multiplier is 1	multiplier
s	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	7

Comments

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Welland name or number _____

S.	Slope Wetlands HYDROLOGIC FONCTIONS - Indicators that the wetland unit functions to reduce flooding and speam crosson	Points (only I score per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
s	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)	
	Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. Dense, uncut, rigid vegetation > 1/2 area of wetland Dense, uncut, rigid vegetation > 1/4 area More than 1/4 of area is grazed, mowed, tilled or vegetation is	
s	not rigid S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 0	ح
s	Add the points in the boxes above	2
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding	(see p. 70)
ŀ	problems — Other	multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	Z _
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	4

Comments

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Wetland	name	or n	umber	
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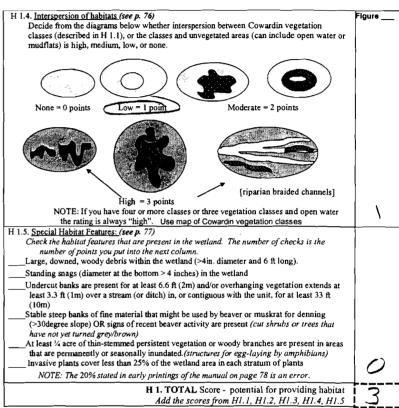
These questions apply to wellands of all HG HABITAT FUNCTIONS - Indicators that unit function	nons to provide important		Points (only Lagre pertion)
H 1. Does the wetland unit have the potential to p	provide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as define class is % acre or more than 10% of the area if unit Aquatic bed Energent plants Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% cov If the unit has a forested class check if: The forested class has 3 out of 5 strata (can	ed by Cowardin)- Size thres is smaller than 2.5 acres. 6 cover) er)	hold for each	Figure
moss/ground-cover) that each cover 20%	winin ine ioresteu polygo	n	
Add the number of vegetation structures that qualify. Map of Cowardin vegetation classes	4 structures or more 3 structures 2 structures 1 structure	points = 4 points = 2 points = 1 points = 0	
H 1.2. Hydroperiods (see p. 73)	· suuciuic		Figure
Check the types of water regimes (hydroperiods) for regime hus to cover more than 10% of the wetland of descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or accessing the flowing stream in, or adjacent to,	4 or more types presen 3 types present 2 types present 1 type present djacent to, the wetland	for t points = 3 points = 2 point = 1	
Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	Map of hyd	roperiods	0
H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland to of the same species can be combined to meet the s You do not have to name the species. Do not include Eurasian Milfoil, reed canarys If you counted: List species below if you want to:	ize threshold)		
			1

Total for page _______

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17-15			Or num	t
v en	and	name	Or niim	ner



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H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
2 C (2.1 80)	Figure
at the state of th	1
Choose the description that vest represents containing the rating. See text for definition of criterion that applies to the wetland is to be used in the rating. See text for definition of	
u distumbed "	
100 - (2200) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
of aircumference. No structures are within the undisturbed part of buffer. (relatively	ì
undicturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	
50% circumference Points = 4	l
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
points = 4	
= 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25%	
circumference Points = 3	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >	
50% circumference.	
If huffer does not meet any of the criteria above	
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	1
oircumference Light to moderate grazing, or lawns are OK. Points = 2	1
No payed areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK.	l
Heavy grazing in huffer. Points = 1	
Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled	
fields naving, hasalt bedrock extend to edge of wetland Points = U.	~
— Buffer does not meet any of the criteria above. Points = 1	ك ا
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
H 2.2.1 is the wetland part of a content of the first of the state of the first of	
or native undisturbed prairie, that conflicts to estuaries, other werhands of undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel	
uplands that are at least 250 actes in size: (units in requirem corridor), roads, paved roads, are considered breaks in the corridor).	
roads, paved roads, are considered or each in the considered of Eds. in the considered V NO = go to H 2.2.2	ļ.
H 2.2.2 is the wetland part of a relatively undisturbed and unbroken vegetated corridor	Ī
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	
l contracts to estuaries other wetlands or undisturbed uplands that are at least 25	
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in	ì
the question above?	
the question above. VPS = 2 points (go to H 2.3) NO = H 2.2.3	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	-
YES = 1 point NO = 0 points	
	_

Total for page

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	1
connections do not have to be relatively undisturbed.	i
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	ĺ
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	l
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	1
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	l
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	Į
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	ĺ
west of the Cascade crest.	ļ
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
report p. 158).	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	†
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	1
that interact to provide functional life history requirements for instream fish and wildlife	
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	l
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	,
list. Nearby wetlands are addressed in question H 2.4)	

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Wetland	name	or	number	
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H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile.	M
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	9
TOTAL for H 1 from page 14	3
Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on p. 1	12

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Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
The dominant water regime is tidal, Vegetated, and	}
With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	<u></u>
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling,	Cat. I
cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover	Cat. II
more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a	Dual rating
Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	1/11
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Į

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Wetland	name	or	number	

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support	Cat. I
state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site	
YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category l NOnot a Heritage Wetland	d o
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes go to Q. 3 No - go to Q. 2	
 Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? 	
Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
2. YES = Category I Nols not a bog for purpose of rating	Cat. I

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
— Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category I NOnot a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon	
SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¼ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet)	Cat. I
YES = Category I NO = Category II	Cat. II

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Wetland name or number ______

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NOfot an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula- lands west of SR 103	
Grayland-Westport- lands west of SR 105	i .
Ocean Shores-Copalis- lands west of SR 115 and SR 109	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
YES = Category II NO – go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. II
YES = Category III	Cat. III
Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. 1. If you answered NO for all types enter "Not Applicable" on p: 1	NA

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Wetland name or number				
Version 2 - Updated July 2006 to increase a Updated Oct 2008 with the new	WDFW definitions for priority habitats			
Name of wetland (if known):	Date of site visit:			
Name of wetland (if known): With Traine	d by Ecology? Yes_No_ Date of training			
SEC:TWNSHP:RNGE: Is S/T/R	in Appendix D? Yes No			
Map of wetland unit: Figure _	Estimated size3372sf			
	OF RATING			
Category based on FUNCTIONS provide	d by wetland			
-				
I II III IV				
Category I = Score >=70	ore for Water Quality Functions			
Category I = Score 51-69	Score for Hydrologic Functions			
Category III = Score 30-50 Score for Habitat Functions				
Category IV = Score < 30	TOTAL score for Functions			
	TOTAL score for Pulicuous 30			
Category based on SPECIAL CHARACT	ERISTICS of wetland			
I II Does not Apply				
Final Category (choose the "h	ighest" category from above)			
Summary of basic informat	ion shout the wetland unit			
Summary of Dasic Informat	Welland HCM Class			
Wetland Unit has Special Characteristics	used for Rating			
Estuarine	Depressional			
Natural Heritage Wetland	Riverine			
Bog	Lake-fringe			
Mature Forest	Slope			
Old Growth Forest	Flats			
Coastal Lagoon	Freshwater Tidal			
Interdunal				
None of the above	Check if unit has multiple			

HGM classes present

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We	etland	name	or	number	
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Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (In addition to the protection recommended for its category)	YES	NO	
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		V	/
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).			/
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?			
SP4. Does the welland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.			

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name or number
Classification of Wetland Units in Western Washington
If the hydrologic celteria listed in each question do not apply to the entire unit being rated, you probably have a noit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.
1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)? NO - go to 2 YES - the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. NO - go to 3 YES - The wetland class is Flats
If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3. Does the entire wetland unit meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)? NO - go to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all of the following criteria? The wetland is on a slope (slope can be very gradual), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

The water leaves the wetland without being impounded?

<3ft diameter and less than I foot deep).

NO - go to 5 YES - The wetland class is Slone

NOTE: Surface water does not pond in these type of wellands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually

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v	etland	name	οr	number	

_									
5.	Does the	e entire	wetland	unit mee	et all of	the fol	lowing	criteria?	

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
- The overbank flooding occurs at least once every two years.
- NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7 YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat aree with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8 YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (nake a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the welland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland na	me or	number	
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CONSTRUCTION OF THE PARTY OF TH	and Flate Wetlands	Points				
D		Conty 1 some				
100	WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to	perbor)				
	improve water qualitys:	7				
D	D 1. Does the wetland unit have the potential to improve water quality?	(see p.38)				
-	D 1.1 Characteristics of surface water flows out of the wetland:	Figure				
1	runit is a depression with no surface water leaving it (no outlet) to the boints = 3	}				
l D	Link has an intermittently flowing. OR highly constricted permanently flowing outlet points = 2	ì				
-	their has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1					
1	Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and	Į.				
1	no obvious natural outlet and/or outlet is a man-made ditch points = 1	١ ـــ				
ì	(If ditch is not permanently flowing treat unit as "Intermittently flowing") Provide photo or drawing	ک ا				
1	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	 				
		l				
	definitions) VFS points = 4	l				
D	100	0				
ì	NO points = 0	Flaura				
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Westend has persistent, ungrazed, vegetation > = 95% of area points = 5	· · · · · · · · · · · · · · · · · · ·				
1_]				
D						
l		~				
	Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes					
	D1.4 Characteristics of seasonal ponding or inundation.	Figure				
-	This is the area of the wetland unit that is ponded for at least 2 months, but dries out					
n						
$\mid D$	sometime during the year. Do not count the area that is permanently ponded. Estimate					
1	area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland points = 4	}				
	Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/4 total area of wetland points = 2	1				
	Area seasonally ponded is < 1/2 total area of wetland Area seasonally ponded is < 1/2 total area of wetland					
ì	Area seasonally ponded is 1/2 total area of well and Map of Hydroperiods	ì				
		 				
	10.00.00	1_6				
E	D 2. Does the wetland unit have the opportunity to improve water quality?	(see p. 44)				
12	Appurer VFS if you know or believe there are pollutants in groundwater or surface water					
ì	coming into the wetland that would otherwise reduce water quality in streams, lakes or					
	groundwater downgradient from the wetland. Note which of the following conditions					
	provide the sources of pollutants. A unit may have pollutants coming from several					
ì	sources but any single source would qualify as opportunity.					
	— Grazing in the wetland or within 150 ft					
- (Untreated stormwater discharges to wetland					
	- Tilled fields or orchards within 150 ft of wetland					
	A stream or culvert discharges into wetland that drains developed areas, residential areas,					
- 1	farmed fields, roads, or clear-cut logging					
1	Residential, urban areas, golf courses are within 150 ft of wetland	multiplier				
	 Wetland is fed by groundwater high in phosphorus or nitrogen 	2				
- 1	VES meltiplier is 2 NO multiplier is 1					
		 				
ΙI	TOTAL - Water Quality Functions Multiply the score from D1 by D2	110				
٦,	Add score to table on p. 1					

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Wetland name or number _____

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 score per box)
	D 3. Does the wetland unit have the potential to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	4
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	_
	Unit is flat (yes to Q. 2 or Q. 7 on key) hut has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	د
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit Entire unit is in the FLATS class points = 5	٥
D	Total for D 3 Add the points in the boxes above	4-
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems	(see p. 49)
	— Other YES multiplier NO multiplier is 1	2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	8

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Wetland	name	or	number	

These questions apply to wetlands of all I	HGM classes.	habitat	Points
H 1. Does the wetland unit have the potential to			
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as de class is % acre or more than 10% of the area if u Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >3 Forested (areas where trees have >30% of lifthe unit has a forested class check if: The forested class has 3 out of 5 strata (moss/ground-cover) that each cover 2	fined by Cowardin)- Size thres init is smaller than 2.5 acres. 10% cover) 10ver)	hold for each	Figure
Add the number of vegetation structures that qualify	y. If you have: 4 structures or more	points = 4	
Map of Cowardin vegetation classes	3 structures 2 structures 1 structure	points = 2 points = 1 points = 0	6
H 1.2. Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods regime has to cover more than 10% of the wetlan descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or	4 or more types presen 3 types presen 2 types present 1 type present	for t points = 3	Figure
Seasonally flowing stream in. or adjacent Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	Map of hyd	roperiods	ı
H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetlan of the same species can be combined to meet the You do not hive to name the species. Do not include Eurasian Milfoil, reed canan If you counted: List species below if you want to:	e size threshold)		
)

	_		•
Total	for	page	

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I	H.1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	Figure
ſ	None = 0 points Low = 1 point Moderate = 2 points	
	[riparian braided channels]	
	High = 3 points	_
	NOTE: If you have four or more classes or three vegetation classes and open water	2
1	the rating is always "high". Use map of Cowardin vegetation classes 1.5. Special Habitat Features: (see p. 77)	
1.	Check the habitat features that are present in the wetland. The number of checks is the	
-	number of points you put into the next column.	
1_	Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
1_	Standing snags (diameter at the bottom > 4 inches) in the wetland	
-	Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)	
-	Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)	l
	At least '4 acre of thin-stemmed persistent vegetation or woody branches are present in areas	
-	that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
1_	Invasive plants cover less than 25% of the wetland area in each stratum of plants	
	NOTE: The 20% stated in early printings of the manual on page 78 is an error.	
	H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

Comments

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Wetland	name	οr	number	

H 2. Does the wetland unit have the opportunity to provide habitat for man	y species?
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The hig criterion that applies to the wetland is to be used in the rating. See text for definition o	rhest scoring
"undisturbed." — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open w	
of circumference. No structures are within the undisturbed part of buffer. (re	latively
undisturbed also means no-grazing, no landscaping, no daily human use) Po	oints = 5
— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open v 50% circumference.	oints = 4
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open w circumference.	oints = 4
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open we circumference.	oints = 3
JU/6 CITCUINCI CITCO.	ater for > oints = 3
If buffer does not meet any of the criteria above — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland	1 > 050/
circumference. Light to moderate grazing, or lawns are OK.	oints = 2
No payed areas or buildings within 50m of wetland for >50% circumference	
Light to moderate grazing, or lawns are OK.	coints-2
	Points = 1
 Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference fields, paving, basalt bedrock extend to edge of wetland 	Points = 0.
Buffer does not meet any of the criteria above.	Points = 1
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated co	rridor
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of st or native undisturbed prairie, that connects to estuaries, other wetlands or undistu	iruos, forest
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily a	sed Pravel
roads, paved roads, are considered breaks in the corridor).	200 8 270
VFS = 4 points $(go to H 2.3)$ NO = go to H 2.2.2	{
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated co	rridor
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shri	ıbs or
forest, and connects to estuaries, other wetlands or undisturbed uplands that are a	t least 25
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corr	ldor as in
the question above? YES = $\frac{1}{100}$ points (go to H 2.3) NO = H 2.2.3	
H 2.2.3 Is the wetherd.	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	_ ا
YES = 1 point NO = 0 points	

Total for page ______

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	T
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	ì
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	1
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	1
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	1
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	1
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.	1
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	1
report p. 158).	ļ
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	1
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	i
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	1
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	i
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	ļ
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	ì
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	ĭ
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	(
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	ı
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	1
If wetland has 2 priority habitats = 3 points	Li
If wetland has 1 priority habitat = 1 point No habitats = 0 points	1 (
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	i .
list. Nearby wetlands are addressed in question H 2.4)	

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Wetland name or number _____

Wetland	пате	or	number	
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5

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ nile. There are no wetlands within ½ nile.	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2. 1, H2.2, H2.3, H2.4	8
TOTAL for H 1 from page 14	Z
Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on p. 1	10

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp, are the only species that cover	Cat. I Cat. II
more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the	Dual rating
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of I acre.	1/11
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
— The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

Watland	name	OF BUILT	nber	

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	Cat. I
YES = Category I NOnot a Heritage Wetland	1
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
 Does the unit have organic soil liorizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 	
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
Yes - go to Q. 3 No - Is not a bog for purpose of rating	ĺ
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4	
NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
I. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
2. YES = Category I No 16 not a bog for purpose of rating	Cat. I

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for	
the Department of Fish and Wildlife's forests as priority habitats? If you answer yes now will still need to rate the wetland based on its functions.	
— Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
— Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category I NOnot a forested wetland with special characteristics	Cat. I
6C 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
 The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks 	

— The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion

- At least % of the landward edge of the wetland has a 100 ft buffer of

SC 5.1 Does the wetland meets all of the following three conditions? - The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant

species (see list of invasive species on p. 74).

shrub, forest, or un-grazed or un-mowed grassland.

-- The wetland is larger than 1/10 acre (4350 square feet)

YES = Category I NO = Category II

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YES = Go to SC 5.1

Wetland name or number ___

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Cat. I

Cat. II

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93)	
ls the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NO	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	1
Long Beach Peninsula- lands west of SR 103	
Grayland-Westport- lands west of SR 105]
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 ls the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. II
YES = Category III	Cat. III
Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. I.	NA
If you answered NO for all types enter "Not Applicable" on p.1	ł

Welland name of flumber	
WETLAND RATING FO	RM – WESTERN WASHINGTON
Version 2 - Updated July 2006 to increase the state of th	ease accuracy and reproducibility among users new WDFW definitions for priority habitats
	· · · · — /
Name of wetland (if known): hetland	Date of site visit:
51 5 11	rained by Ecology? Yes_No Date of training
Rated by Tr	rained by Ecology? Yes_No Date of training
SEC: TWNSHP: RNGE: Is S/	
Map of wetland unit: Figur	re Estimated size
STIMMA	RY OF RATING
SUMMA	RI OF RATING
Category based on FUNCTIONS prov	vided by wetland
I II_ III_ IV_	·
ı ıı ıı ı ··-	
	Score for Water Quality Functions
Category I = Score >= 70	<u> </u>
Category II = Score 51-69	Score for Hydrologic Functions 4
Category III = Score 30-50	Score for Habitat Functions \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Category IV = Score < 30	TOTAL score for Functions 35
CDECIAL CHAR	CTEDISTICS of wotland
Category based on SPECIAL CHARA	
I II Does not Apply	_
	
Timel Category (shares the	"Highort" entagon; from above
Final Category (choose th	ne "highest" category from above)
Summary of basic infor	mation about the wetland unit
Wetland Unit has Special	Wetland HGM Class
Characteristics [10]	used for Rating
Estuarine	Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats Frankwater Tidel
Coastal Lagoon	Freshwater Tidal
Interdunal	Park if with her multiple
None of the above	Check if unit has multiple
	HGM classes present

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Wetland name or number	
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Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO.
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland	name or	number	
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Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably pays a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the	e entire unit usually controlled by tides (i.e. except during floods)?
NO – go to 2	YES - the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3 YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit meet all of the following criteria?
 - The wetland is on a slope (slope can be very gradual),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3st diameter and less than 1 foot deep).

NO - go to 5 YES - The wetland class is Slope

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Wetlan	d name	or number	
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- 5. Does the entire wetland unit meet all of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7 YES - The wetland class is Depressional

7. Is the entire wetland that located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8 YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the westand finit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland	name	of	number	
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n	Depressional and Flats Wetlands	Points.
ν.	WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to	(only I score
	improve water quality	be ecs)
H1002/13	D 1. Does the wetland unit have the potential to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland:	Figure
	Unit is a depression with no surface water leaving it (no outlet) points = 3	gu
D	Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2)
יין	Host has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1	1
1	Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and	I
	no obvious natural outlet and/or outlet is a man-made ditch points = 1	>
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	_
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	+
		1
D	definitions) YES points = 4	l _
ישן	NO points = 0	G
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)	Figure
	Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5	
D	Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3	j
-	Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1	
	Wetland has persistent, ungrazed vegetation <1/10 of area points = 0	5
	Map of Cowardin vegetation classes	
ì	D1.4 Characteristics of seasonal ponding or inundation.	Figure
l	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate	ı
D	area as the average condition 5 out of 10 yrs.	ì
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetland points = 4	
	Area seasonally nonded is > 1/4 total area of wetland	
	Area seasonally ponded is < 1/4 total area of wetland points = 0	12
1	Map of Hydroperiods	ļ
D	Total for D 1 Add the points in the boxes above	9
-	D 2. Does the wetland unit have the opportunity to improve water quality?	(see p. 44)
D	Answer VFS if you know or believe there are pollutants in groundwater or surface water]
	coming into the wetland that would otherwise reduce water quality in streams, lakes or	
	groundwater downgradient from the wetland. Note which of the following conditions	
ì	provide the sources of pollutants. A unit may have pollutants coming from several	
	sources, but any single source would qualify as opportunity.	Į
	Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft of wetland	
	- A stream or culvert discharges into wetland that drains developed areas, residential areas,	
	farmed fields, roads, or clear-cut logging	
1	 Residential, urban areas, golf courses are within 150 ft of wetland 	multiplier
	 Wetland is fed by groundwater high in phosphorus or nitrogen 	2
	VFS multiplier is 2 NO multiplier is 1	
	1 EO Management	1
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2	/ %
	Add score to table on p. 1	

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	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 score per box)
	D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch (If ditch is not permanently flowing treat unit as "intermittently flowing")	,
D	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	٤.
	Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap	
_	water Marks of ponding less than 0.5 ft D 3.3 Contribution of wetland unit to storage in the watershed	۵
D	Estimate the ratio of the area of upstream basin contributing surfuce water to the wetland to the area of the wetland	
	The area of the basin is less than 10 times the area of unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit The area of the basin is more than 100 times the area of the unit	0
_	Entire unit is in the FLATS class points = 5 Total for D 3 Add the points in the boxes above	
D		
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems	(see p. 49)
	 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other 	multiplier
	YES multiplier is 2 NO multiplier is 1	<u></u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	4

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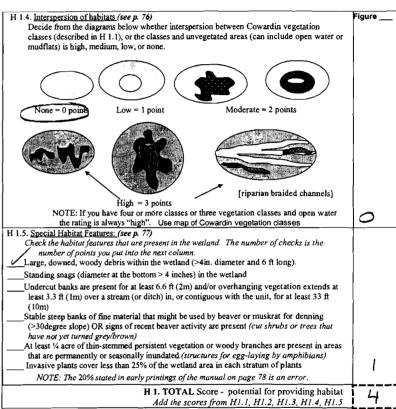
These questions apply to wellands of all HO HABITAT FUNCTIONS - Indicators that unit func	TM classes. tions to provide important	habitat 🖟	Points (only i score per box)
H 1. Does the wetland unit have the potential to	provide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defin class is % acre or more than 10% of the area if unit Aquatic bed Emergent plants Scrob/shrub (areas where shrubs have >30% Forested (areas where trees have >30% cov If the upit has a forested class check if:	ed by Cowardin)- Size thres t is smaller than 2.5 acres. (6 cover) eer)	hold for each	Figure
moss/ground-cover) that each cover 20%	% within the forested polygo	n	Į.
Add the number of vegetation structures that qualify. Map of Cowardin vegetation classes	If you have: 4 structures or more 3 structures 2 structures 1 structure	points = 4 points = 2 points = 0	,
H 1.2. Hydroperiods (see p. 73)			Figure
Check the types of water regimes (hydroperiods) pregime has to cover more than 10% of the wetland descriptions of hydroperiods) Permanently flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or access on the stream of the	4 or more types presen 3 types present 2 types present 1 type present djacent to, the wetland	for t points = 3 points = 2 point = 1 points = 0	
H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland to fit he same species can be combined to meet the s. You do not have to name the species. Do not include Eurasian Milfoil, reed canaryg If you counted: List species below if you want to:	ize threshold)		
		_	1.

Total for page _______

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Comments

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H 2. Does the wetland unit have the opportunity to provide habitat for m	any species?	
H 2.1 Buffers (see p. 80)		Figure
Change the description that best represents condition of buffer of wetland unit. The l	ighest scoring	
criterion that applies to the wetland is to be used in the rating. See text for definition	of	
"undisturbed."		
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open	water >95%	
of circumference. No structures are within the undisturbed part of buffer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human use)	Points ≈ 5	'
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or ope	n water ≥	
50% circumference.	Points = 4	
 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open 	water>95%	
circumference.	Points = 4	
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open	water > 25%	
circumference, .	Points = 3	
 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open 		
50% circumference.	Points = 3	ı
If buffer does not meet any of the criteria above	1 > 050/	
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetler	ng > 95% Points ≃ 2	
circumference. Light to moderate grazing, or lawns are OK.		
— No paved areas or buildings within 50m of wetland for >50% circumference	Daine - 3	
Light to moderate grazing, or lawns are OK.	Points = 2	
— Heavy grazing in buffer.	Points = 1	
— Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumfere	Points = 0.	
fields, paving, basalt bedrock extend to edge of wetland		'
Buffer does not neet any of the criteria above. Aerial photo showing buffers	Points ≠ 1	,
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated	corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of	chribe forest	
or native undisturbed prairie, that connects to estuaries, other wetlands or undi	sturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily	used gravel	
rouds, paved roads, are considered breaks in the corridor).	LESON BY LIVE	
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$		
H 2 2 2 Is the wetland part of a relatively undisturbed and unbroken vegetated	corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of sl	arubs or	
forest and connects to estuaries, other wetlands or undisturbed uplands that are	at least 25	
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed or	orridor as in	
the question above?		
YES = 2 points (go to $H 2.3$) NQ = $H 2.2.3$		
H 2.2.3 Is the wetland:	1	i
within 5 mi (8km) of a brackish or salt water estuary OR		
within 3 mi of a large field or pasture (>40 acres) OR	ĺ	
within 1 mi of a lake greater than 20 acres?		- /
YES = 1 points NO = 0 points		

Total for page 5

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	1
the PHS report http://wdfw.wa.gov/hab/phslist.htm.)	ı
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	1
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	1
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	ł
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	1
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	ļ
Aeport p. 158).]
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	1
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	ļ
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	ĺ
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore.	ĺ
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of hubituts and the	ı
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	ļ
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	i
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	ļ
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	ı
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	l
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	ļ
If wetland has 3 or more priority habitats = 4 points	ĺ
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	<i> </i>
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	•
list. Nearby wetlands are addressed in question H 2.4)	

Wetland name or number ____

Wetland name or	number
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	C
H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that hest fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are joints = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile.	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	9
TOTAL for H from page 4	4
Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on p. 1	13

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CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands (see p. 86)	† — — ·
Does the wetland unit meet the following criteria for Estuarine wetlands?	
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. 	
YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = <u>Category I</u> NO go to SC 1.2	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant	Cat. I Cat. II
species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
 At least ½ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland has at least 2 of the following features: tidal channels, 	
depressions with open water, or contiguous freshwater wetlands.	
The state of the s	<u> </u>

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SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	Cat. I
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NOnot a Heritage Wetland	
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes go to Q. 3	
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
J. Is the unit forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock. lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
2. YES = Category I No / Is not a bog for purpose of rating	Cat. I

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SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer ves you will still need to rate the wetland based on its functions. - Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. - Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. Cat. I YES = Category 1 NO not a forested wetland with special characteristics SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks - The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured nego the bottom) NO not a wetland in a coastal lagoon YES = Go to SC 5.1SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). - At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. Cat. I — The wetland is larger than 1/10 acre (4350 square feet) Cat. II YES = Category I NO = Category II

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SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of U	pland
Ownership or WBUO)?	
YES - go to SC 6.1 NO _not an interdunal wetland for r	ating
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula- lands west of SR 103 	
Grayland-Westport- lands west of SR 105	
Ocean Shores-Copalis- lands west of SR 115 and SR 109	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that	is
once acre or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands the	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and recon	don MA
p.L	ALIMAN /
If you answered NO for all types enter "Not Applicable" on p.1	- 14 - 17 T

			WESTERN WASHIN		
	Version 2 - Updated July 2006 Updated Oct 2008 w	to increase accu	aracy and reproducibility an DFW definitions for priority	nong users	
					71.
Name of w	etland (if known): We	/ Ind	Date	of site visi	t: <u> </u>
	5 at 5 at 1		.	_	
Rated by	20 0000	Trained b	y Ecology? YesNo_	Date o	f training_
SEC: T	TWNSHP: RNGE:	Is S/T/R in	Appendix D? Yes	No	
	Map of wetland unit: I	Figure	_ Estimated size _	14	4/sF
	SUM	MARY O	F RATING		
Category	based on FUNCTIONS	provided	by wetland		
I	_ II III IV	_			
		Score	e for Water Quality Fur	nctions	11)
Category	I = Score >=70	Sc	ore for Hydrologic Fur	nations -	13
Category	II = Score 51-69 III = Score 30-50	30	, ,		1-
Category	IV = Score < 30		Score for Habitat Fur	ictions	12
Category	17 - 30010 < 50	,	FOTAL score for Fun	ctions	34
				_	
C-4	based on SPECIAL CH	ADACTE	DISTICS of wotler	.d	
			MISTICS OF MEDIA	ıu	
I_	_ II Does not Appl	y			
				Г	
	Final Category (choo	ana tha Whial	antil antonomi fuom al		3
	rinal Category (choc	ose the high	iest category from at	ove)	\sim $ $
				_	
	Summary of basic	information	about the wetland un	it	
	Wetland Unit has Special	<i>"</i>	Welland HGM Cl	988	
	Characteristics	1 1 1	used for Rating		
	Estuarine		Depressional		ļ
	Natural Heritage Wetland	<u>i </u>	Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope	/-	
	Old Growth Forest		Flats_		
	Coastal Lagoon		Freshwater Tidal	-+-	
	Interdunal		G1 1 10 11		1
	None of the above		Check if unit has mult	tiple	
			HGM classes present		

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Wetland name or number _____

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Vetland	name	ΩЕ	number	

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Profection YES	ÑO.
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?	
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name or number	
Classifica	
• • • • • • • • • • • • • • • • • • • •	

ation of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)? YES - the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category 1 and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3

YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 - At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go to 4

YES - The wetland class is Lake-fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit meet all of the following criteria?
 - The wetland is on a slope (slope can be very gradual).
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

NO - go to 5 YES - The wetland class is Slope

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Welland	name o	r number	

- 5. Does the entire wetland unit meet all of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - The overbank flooding occurs at least once every two years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
 - NO go to 6 YES The wetland class is Riverine
- 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
 - NO go to 7YES - The wetland class is Depressional
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet
 - YES The wetland class is Depressional NO - go to 8
- 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN OUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.

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Wetland	name	or	numbe	г
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S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points : (only 1 score to per took)
S	S 1. Does the wetland unit have the potential to improve water quality?	(see p.64)
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5%	٥
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES 7 points NO = 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > ½ of area points = 1 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure
s	Total for S I Add the points in the boxes above	5
S	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland	(see p.67)
	Tilled fields, logging, or orchards within 150 feet of wetland Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other YES nultiplier is NO multiplier is 1	multiplier
s	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	10

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S.	Slope Wetlands THOSEOLOGIC FUNCTIONS Indicators that the Wetland unit functions to the reduce flooding and stream crossion	Points (only Lacers per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3	
	Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	4
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0
S	Add the points in the boxes above	6
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding	(see p. 70)
	problems — Other	multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	2
s	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	12

Comments

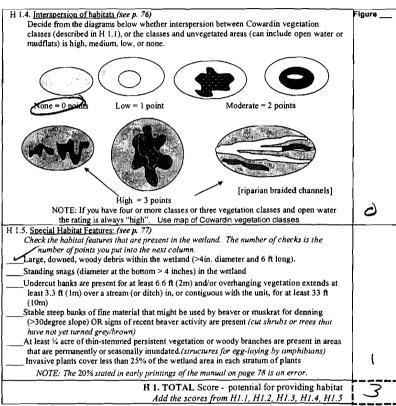
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These questions apply to wellands of all HG HABITAT FUNCTIONS - Indicators that unit funct	M classes. ions to provide importan	habitat .	Points (only) sector per box)
H 1. Does the wetland unit have the potential to p	rovide habitat for man	species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as define class is % acre or more than 10% of the area if unit Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30% cove	ed by Cowardin)- Size thres is smaller than 2.5 acres.		Figure
If the unit has a forested class check if:	to the terminal and the terminal termi		
The forested class has 3 out of 5 strata (cane moss/ground-cover) that each cover 20%	opy, sub-camopy, suruus, ne within the forested nolved	n	
Add the number of vegetation structures that qualify. If	f vou have:		
And the number of regulation and an array of	4 structures or more	points ≈ 4	1
Map of Cowardin vegetation classes	3 structures	points = 2	
Wap of contaction registration states	2 structures	points = 1	1
(1)	1 structure	points = 0	Figure
H 1.2. <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroperiods) pr	resent within the wetland	The water	Figure
regime has to cover more than 10% of the wetland o	r ¼ acre to count. (see text	for	
descriptions of hydroperiods)	, , , , , , , , , , , , , , , , , , , ,	,	
Permanently flooded or inundated	4 or more types presen		
Seasonally flooded or inundated	3 types present		
Ocasionally flooded or inundated	2 types present		
Saturated only Permanently flowing stream or river in, or ad	I type present	points = 0	
Seasonally flowing stream in, or adjacent to,	jaceni io, uie wenanu]
Seasonary flowing stream in, or adjacent to,	ine wenting		
Freshwater tidal wetland = 2 points	Map of hyd	roperiods	0
H 1 3 Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetland the	nat cover at least 10 ft2. (di	fferent patches	
of the same species can be combined to meet the size	ze threshold)		
You do not have to name the species.			
Do not include Eurasian Milfoil, reed canarygr	ass, purple loosestrife, Ca	nadian Thistle	
If you counted:	> 19 species 5 - 19 species	points = 2	
List species below if you want to:	< 5 species	points = 0	1
	< 3 species	ponts – v	
			ļ
			١.
			1

Total for page ______

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w	etland	name	or n	umbe	•



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H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
U 2 1 Buffers (see tt. 80)	Figure
Choose the description that best represents condition of buffer of wetland unit. The highest scoring	
criterion that applies to the wet/and is to be used in the rating. See text for definition of	
"undisturbed."	
- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
of circumference. No structures are within the undisturbed part of buffer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	
50% circumference. Points = 4	
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
circumference. Points = 4	
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water ≥ 25%	
circumference, . Points = 3	
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >	
50% circumference. Points = 3	
If buffer does not meet any of the criteria above	
- No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	_
circumference. Light to moderate grazing, or lawns are OK. Points = 2	
— No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK. Points = 2	
— Heavy grazing in buffer. Points = 1	
- Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled	
fields, paving, basalt bedrock extend to edge of wetland Points = 0.	
Buffer does not meet any of the criteria above. Points = 1	~
Aerial photo showing buffers	<u>、</u>
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest	
or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel	
roads, paved roads, are considered breaks in the corridor).	
YES = 4 points $(go \text{ to } H 2.3)$ NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	Į.
forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25	
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in	
the question above?	
YES = 2 points (go 10 H 2.3) NO = H 2.2.3	
H 2.2.3 Is the Wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	ļ
within 3 mi of a large field or pasture (>40 acres) OR	っ
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

Total for page 5

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	i
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	l
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	Ì
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	i
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	ì
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	i
west of the Cascade crest.	ľ
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
peport p. 158).	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	
résources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	,
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	1
list. Nearby wetlands are addressed in question H 2.4)	
L The state of the	

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Wetland	name	٥r	number	

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H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. There are no wetlands within ½ mile.	3_
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4	9
TOTAL for H 1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	12

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CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the welland meets the attributes described below and circle the appropriate answers and Category.

Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
- The dominant water regime is tidal, - Vegetated, and - With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
YES = Go to SC 1.1 NO SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	Cat. I
following three conditions? YES = Category I NO = Category II	
	Cat. I
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant	Cat. II
species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a	Dual rating
Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	1/11
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

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SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	Cat. I
YES = Category 1 NOnot a Heritage Wetland	
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes go to Q. 3 No - go to Q. 2	
Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the folds shrub/herbaceous cover)?	

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No ls not a bog for purpose of rating

Cat. I

A 1128 . 3	6. Tab. 1.	9.88			
SC 4.0 For	rested Wetlands (se	e p. 90)			
Does the we	etland unit have at le	ast 1 acre of f	forest that meet on	e of these criteria	for
the Departm	nent of Fish and Wild	dlife's forests	as priority habitat	s? If you answer	yes
you will stil	l need to rate the we	tland based or	n its functions.		
— Old-	-growth forests: (we	est of Cascade	e crest) Stands of a	at least two tree sp	ecies,
form	ning a multi-layered	canopy with o	occasional small o	penings; with at le	ast 8
trees	s/acre (20 trees/hecta	re) that are at	least 200 years of	age OR have a	

diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.

- Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.

YES = Category 1 NO not a forested wetland with special characteristics

Cat. I

SC 5.0 Wetlands in Coastal Lagoons (see p. 91)

Wetland name or number

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)

 YES = Go to SC 5.1

 NO_____ not a wetland in a coastal lagoon YES = Go to SC 5.1

SC 5.1 Does the wetland meets all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).
- At least 34 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than 1/10 acre (4350 square feet)

YES = Category 1 NO = Category 11

Cat. I

Cat. II

2. YES = Category [

Wetland name or number _

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of I	Jpland
Ownership or WBUO)?	
YES - go to SC 6.1 NO not an interdunal wetland for	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula- lands west of SR 103	
Grayland-Westport- lands west of SR 105	
Ocean Shores-Copalis- lands west of SR 115 and SR 109	
SC 6.1 ls the wetland one acre or larger, or is it in a mosaic of wetlands that	ıt is
once acre or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands t	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and recor	WA
p. 1.	' ' '
If you answered NO for all types enter "Not Applicable" on p.1	A11411232000000

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Wetland name or number			
WETLAND RATING FORM - Version 2 - Updated July 2006 to increase ac Updated Oct 2008 with the new W	curacy and reproducibility among users VDFW definitions for priority habitats		
Name of wetland (if known): Wether's F Rated by South Trained	Date of site visit:		
51 5-11			
Rated by Trained	by Ecology? Yes_No Date of training_		
SEC: TWNSHP: RNGE: ls S/T/R in	n Annendix D? Yes No		
SEC I WHOLE : IS TO I	F=180		
Map of wetland unit: Figure	_ Estimated size F = 180		
	•		
SUMMARY (OF RATING		
Category based on FUNCTIONS provided	by wetland		
I <u>II III IV</u>			
- <u>-</u> -			
Sco	re for Water Quality Functions		
Category 1 = Score >= 70	Score for Hydrologic Functions		
Category II - Score 31-05	, ,		
Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30			
Category IV - Scote 130	TOTAL score for Functions 3		
			
Category based on SPECIAL CHARACTI	FRISTICS of wetland		
* -	SKISTIES OF WELLAND		
I II Does not Apply			
Final Category (choose the "hig	ghest" category from above)		
Summary of basic information	n about the wetland unit		
Wetland Unit has Special Characteristics	Wetland HGM Class		
Estuarine	Depressional		
Natural Heritage Wetland	Riverine		
Bog	Lake-fringe		
Mature Forest Old Growth Forest	Slope Flats		
Coastal Lagoon	Freshwater Tidal		
Interdunal	A - COMPT MICH AREAS		
None of the above	Check if unit has multiple		
Motte of the above	HGM classes present		
L			

Wetland Rating Form - western Washington

version 2 To be used with Ecology Publication 04-06-025

Vetland	name	٥r	number	

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check list for Wetlands That May Need Additional Protection (in addition and the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name	or number
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Classification of Wetland Units in Western Washington

If the hydrologic criteria lifted in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which bydrologic criteria in questions 1-7 apply, and go to Question 8/2.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?

NO - go to 2

YES - the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category 1 and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.

Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3 YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 - At least 30% of the open water area is deeper than 6.6 ft (2 m)?
 - NO go to 4 YES The wetland class is Lake-fringe (Lacustrine Fringe)
- 4. Does the entire wetland unit meet all of the following criteria?
 - ____The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3st diameter and less than I foot deep).

NO - go to 5 YES - The wetland class is Slope

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Vetl	and	name	or	num	ber	
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- 5. Does the entire wetland unit meet all of the following criteria?
 - ___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - The overbank flooding occurs at least once every two years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is

NO - go to 6 YES - The wetland class is Riverine

- 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
 - NO go to 7 YES The wetland class is Depressional
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 - NO go to 8 YES The wetland class is Depressional
- 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland	name	or num	ber
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S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to	Points
	improve water quality	P per box)
s	S 1. Does the wetland unit have the potential to improve water quality?	(see p.64)
s	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) points = 3	
	Slope is 1% - 2% points = 2	
	Slope is 2% - 5% points = 1	
	Slope is greater than 5% points = 0	0
s	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES 3 points NO = 0 points	3
s	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75%	Figure
	cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6	
	Dense, uncut, herbaceous vegetation > 1/2 of area points = 3	
\	Dense, woody, vegetation > ½ of area points = 2	1
	Dense, uncut, herbaceous vegetation > 1/4 of area points = 1	2
	Does not meet any of the criteria above for vegetation points = 0	
	Aerial photo or map with vegetation polygons	l
s	Total for S 1 Add the points in the boxes above	5
S	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p.67)
	Grazing in the wetland or within 150ft Untreated stormwater discharges to wetland	
	Tilled fields, logging, or orchards within 150 feet of wetland	
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland	multiplier (
	— Other YES multiplier is 2 NO multiplier is 1	 -
s	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	5

Comments

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Wetland name or number _____

Ś	Slope Wetlands HYDROLOGIC FUNCTIONS Indicators that the wetland unit functions to reduce flooding and stream crossion	Points (only i score per hex)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland, (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3	
	Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	6
s	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0
S	Add the points in the boxes above	6
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding	(see p. 70)
	problems — Other	multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	7
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	7

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Wetland name	or number	
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These questions apply to wellands of all HG HABITAT FUNCTIONS - Indicators that unit function	ons to provide important	Anna Arten Control	Points (80) 1 scre ser box)
H 1. Does the wetland unit have the potential to pr	rovide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72)			Figure
Check the types of vegetation classes present (as defined	d by Cowardin)- Size thres	hold for each	
class is 1/4 acre or more than 10% of the area if unit	is smaller than 2.5 acres.	•	1
Aquatic bed			1
Emergent plants			
Scrub/shrub (areas where shrubs have >30%	cover)		
Forested (areas where trees have >30% cove	r)		1
If the unit has a forested class check if:			
The forested class has 3 out of 5 strata (cano	py, sub-canopy, shrubs, he	rbaceous,	
moss/ground-cover) that each cover 20%			1
Add the number of vegetation structures that qualify. If	you have:		
, , , , , , , , , , , , , , , , , , , ,	4 structures or more	points = 4	I
Map of Cowardin vegetation classes	3 structures	points = 2	۱.
Map of Cowardin Vegetation Classes	2 structures	points = 1	17
	1 structure	points = 0	
H 1.2. Hydroperiods (see p. 73)			Figure
Check the types of water regimes (hydroperiods) pr	esent within the wetland. I	he water	}
regime has to cover more than 10% of the wetland of	" /a acre to count. (see text	for	
descriptions of hydroperiods)	•		
Permanently flooded or inundated	4 or more types present	points = 3	(
Seasonally flooded or inundated	3 types present	points = 2	
Occasionally flooded or inundated	2 types present	point = 1	I
Saturated only	1 type present	points = 0	1
Permanently flowing stream or river in, or adj	acent to, the wetland	•	1
Seasonally flowing stream in, or adjacent to, t	he wetland		1
Lake-fringe wetland = 2 points			1 1
Freshwater tidal wetland = 2 points	Map of hydr	operiods	1 /
H 1.3. Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetland th	at cover at least 10 ft ² (dif	Terent nutches	
of the same species can be combined to meet the siz	e threshold)	erem pinenes	
You do not have to name the species.	0 1 (20.2)		Ì
Do not include Eurasian Milfoil, reed canarygra	uss nurnle loosestrife. Car	adian Thistle	1
If you counted:	> 19 species	points = 2	
List species helow if you want to:	5 - 19 species	DOINTS - P	1
List species nelow if you with to	< 5 species	points = 0	1
	5 Species	pouns o	
			İ
			1 .
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		or number	
Wellan	d name	ሰ ሮ ክሀ ተ ስ ሶ ሮ	

H 1.4. Interspersion of habitats (see p. 76)	Figure
Decide from the diagrams below whether interspersion between Cowardin vegetation	
classes (described in H 1.1), or the classes and unvegetated areas (can include open water or	
mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points	ł
[riparian braided channels]	
High = 3 points	
NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	\circ
H 1.5. Special Habitat Features: (see p. 77)	_
Check the habitat features that are present in the wetland. The number of checks is the	
number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at	ľ
least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft	
(10m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)	
At least 'A acre of thin-stemmed persistent vegetation or woody branches are present in areas	
that are permanently or seasonally inundated. (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants	
NOTE: The 20% stated in early printings of the manual on page 78 is an error.	'
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

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H 2. Does the wetland unit have the opportunity to provide hab	itat for many species?	
H 2.1 Buffers (see p. 80)		Figure
Choose the description that best represents condition of buffer of wetland	unit. The highest scoring	
criterion that applies to the wetland is to be used in the rating. See text fo	r definition of	1
"undisturbed."		ł
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky are	as, or open water >95%	
of circumference. No structures are within the undisturbed part of		l
undisturbed also means no-grazing, no landscaping, no daily hum		ì
 100 m (330 ft) of relatively undisturbed vegetated areas, rocky are 	eas, or open water >	
50% circumference.	Points = 4	1
 50 m (170ft) of relatively undisturbed vegetated areas, rocky area 	is, or open water >95%	ļ
circumference.	Points = 4	ì
- 100 m (330ft) of relatively undisturbed vegetated areas, rocky are	as, or open water > 25%	
circumference,	Points = 3	
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky area	is, or open water for >]
50% circumference.	Points = 3	
If buffer does not meet any of the criteria ab-		
No paved areas (except paved trails) or buildings within 25 m (80	ft) of wetland > 95%	
circumference. Light to moderate grazing, or lawns are OK.	Points = 2	
- No payed areas or buildings within 50m of wetland for >50% circ	umference.	
Light to moderate grazing, or lawns are OK.	Points = 2	
Heavy grazing in buffer.	Points = 1	
Vegetated buffers are <2m wide (6.6ft) for more than 95% of the	circumference (e.g. tilled	
fields, paying, basalt bedrock extend to edge of wetland Points = 0.		
Buffer does not meet any of the criteria above.	Points = 1	4
Aerial photo showing	buffers	,
H 2.2 Corridors and Connections (see p. 81)		
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken	vegetated corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30%	% cover of shrubs, forest	
or native undisturbed prairie, that connects to estuaries, other wetlan	ds or undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corrido	ors, heavily used gravel	
roads, paved roads, are considered breaks in the corridor).		
$YES = 4 \text{ points } (go to H 2.3) \qquad NO = go to H 2.3$		
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken	vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30%	cover of shrubs or	
forest, and connects to estuaries, other wetlands or undisturbed uplan	nds that are at least 25	
acres in size? OR a Lake-fringe wetland, if it does not have an und	isturbed corridor as in	
the question above?		
YEO = 2 points (go to H 2.3) NO = H 2	2.2.3	
H 2.2.3 Is the wetland:		
within 5 mi (8km) of a brackish or salt water estuary OR		
within 3 mi of a large field or pasture (>40 acres) OR	Ì	7
within 1 mi of a lake greater than 20 acres?		_
YES = 1 point <u>NO = 0 p</u>	oints_	

Total for page 💪

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm.)	ĺ
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	Ì
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	ľ
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	ļ
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.	l
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
report p. 158).	Ï
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long. If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	· ·
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	1
list. Nearby wetlands are addressed in question H 2.4)	
nsi, iveuroy weutinas are daaressed in question (1 2.4)	

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Wetland	name (or num	ber	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. There are no wetlands within ½ mile.	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	10
TOTAL for H 1 from page 14	7
Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on p. 1	14

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Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the welland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	1
The dominant water regime is tidal, Vegetated, and	
- With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover	Cat. I Cat. II
more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the	Dual rating
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	1/11
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
— The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

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Wetland name or number	
,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

	SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2	Cat. I
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NOnot a Heritage Wetland	
l	SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the	
	soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
	Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes - Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory	
	you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	I. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
ļ	YES = Category I No Is not a bog for purpose of rating	Cat. I

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Wetland name or number _____

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions.	
— Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
— Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category I NOnot a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	, (
— The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon	
1 ES ~ Go to SC 3.1 NO not a wettand in a coastal lagoon	
 SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). 	
 At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	Cat. I
— The wetland is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	Cat. II

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SC 6.0 Interdunal Wetlands (see p. 93)	Ì	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland		
Ownership or WBUO)?	[
YES - go to SC 6.1 NOnot an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its	•	
functions.		
In practical terms that means the following geographic areas:	Ì	
Long Beach Peninsula- lands west of SR 103	l	
Grayland-Westport- lands west of SR 105		
Ocean Shores-Copalis- lands west of SR 115 and SR 109		
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is		
once acre or larger?		
YES = Category II NO – go to SC 6.2		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics	_	
Choose the "highest" rating if wetland falls into several categories, and record on		
p. In the second		
If you answered NO for all types enter "Not Applicable" on p.1		

Wetland name or number			
WETLAND RATING FORM Version 2 - Updated July 2006 to increase a	- WESTERN WASHINGTON		
Updated Oct 2008 with the new	WDFW definitions for priority habitats		
1. 4.1	14 3/1		
Name of wetland (if known):	Date of site visit:		
51 5 VI			
Name of wetland (if known): Wetid			
SEC: TWNSHP: RNGE: Is S/T/R			
Map of wetland unit: Figure _	Estimated size <u>6</u> /8000 f		
SUMMARY	OF RATING		
Category based on FUNCTIONS provide	d by wetland		
-	•		
I II III IV			
	core for Water Quality Functions		
Category I = Score >= 70	` '		
Category II = Score 51-69	Score for Hydrologic Functions		
Category III = Score 30-50	Score for Habitat Functions		
Category IV = Score < 30	TOTAL score for Functions 32		
	pppictice .cd		
Category based on SPECIAL CHARACT	TERISTICS of wetland		
I II Does not Apply			
1 1 11.7			
Final Category (choose the "l	highest" category from above)		
Summary of basic informa	tion about the wetland unit		
Wetland Unit has Special Wetland HGM Class Characteristics used for Rating			
	Depressional Depressional		
Estuarine Workend	Riverine		
Natural Heritage Wetland	Lake-fringe		
Bog	Slope		
Mature Forest Old Growth Forest	Flats		
	Freshwater Tidal		
Coastal Lagoon Interdunal	A TOTAL BANK A SHAPE		
None of the above	Check if unit has multiple		
None of the above	HGM classes present		

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w	etla	hne	пате	۸r	number	

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection YES (in addition to the protection recommended for its category).	No
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?	
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	/
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?	
For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	/
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	/

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name or number	Wetland	пате	or num	nber_	
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Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being a rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteris in questions 1-7 apply, and go to Question 8.

1 4	Are the water levels	n the entire unit usually controlled by tides (i.e. except during fle	oods)'
1	NO = go to 2	YES - the wetland class is Tidal Fringe	

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3 YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 - At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit meet all of the following criteria?
 - The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually
 - comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually

<3ft diameter and less than 1 foot deep)</p>
NO - go to 5
YES - The wetland class is Slope

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Vetland name or number	
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- 5. Does the entire wetland unit meet all of the following criteria?
 - ___ The unit is in a valley, or stream channel, where it gets inundated by overbank
 - flooding from that stream or river

 The overbank flooding occurs at least once every two years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

- 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
 - NO go to 7 YES The wetland class is Depressional
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 - NO go to 8 YES The wetland class is Depressional
- 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HOM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland	name (or number	
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S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to	Points (only i some per box)
S	improve water quality S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)
s	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5%	0
s	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	3
s	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area Dense, uncut, herbaceous vegetation > 1/4 of area Dense, uncut, herbaceous vegetation > 1/4 of area Does not meet any of the criteria above for vegetation Aerial photo or map with vegetation polygons	Figure
s	Total for S 1 Add the points in the boxes above	5
s	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p.67)
	- Grazing in the wetland or within 150ft - Untreated stormwater discharges to wetland - Tilled fields, logging, or orchards within 150 feet of wetland - Residential, urban areas, or golf courses are within 150 ft upslope of wetland - Other YES multiplier is 2 NO multiplier is T	multiplier
s	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	5

Comments

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Wetland name or number _____

S	Slope Wetlands HYDROTEOGIC FUNCTIONS: Indicators that the wetland unit functions to greater flooding and stream crosson	Points (only 1 score per bon)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
s	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6	
 	Dense, uncut, rigid vegetation > 1/2 area of wetland Dense, uncut, rigid vegetation > 1/4 area More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	3
s	not rigid points = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 0 NO points = 0	O
$ \mathbf{s} $	Add the points in the boxes above	3
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding	(see p. 70)
	problems — Other (Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is NO multiplier is 1	multiplier Z
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	6

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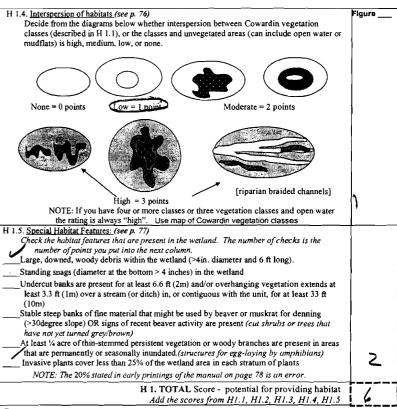
Wetland	name or number	er
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These questions apply to wellands of all HG HABITAT FUNCTIONS - Indicators that unit func	ions to provide importan		Points (certy I scerce per (tox)
H 1. Does the wetland unit have the potential to p	provide habitat for man	y species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as define class is % acre or more than 10% of the area if unit Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30% cov	ed by Cowardin)- Size thre: is smaller than 2.5 acres. 6 cover)		Figure
If the unit has a forested class check if:		arba caous	
The forested class has 3 out of 5 strata (can moss/ground-cover) that each cover 20%	opy, sub-callopy, sinubs, ii	on	
Add the number of vegetation structures that qualify.	if you have:	,u	
Add the number of vegetation structures that quality.	4 structures or more	points = 4	
	3 structures	points = 2	1 (
Map of Cowardin vegetation classes	2 structures	points = 1	1 , 1
	1 structure	points = 0	<u> </u>
H 1.2. Hydroperiods (see p. 73)			Figure
Charletha tupes of water regimes (hvaroperious) b	resent within the wetland.	The water	
regime has to cover more than 10% of the wetland	or ¼ acre to count. (see tex	for	l J
descriptions of hydroperiods)	4 or more types presen	nt points = 3	1
Permanently flooded or inundated Seasonally flooded or inundated	3 types presen		
Occasionally flooded or inundated	2 types present		
Saturated only	l type present		
Permanently flowing stream or river in, or ac	liacent to, the wetland		ì
Seasonally flowing stream in, or adjacent to,	the wetland		
Lake-fringe wetland = 2 points			1 1
Freshwater tidal wetland = 2 points	Map of hyd	Iroperiods	1 []
TI 1.2 Dishress of Plant Species (see p. 75)			
Count the number of plant species in the wetland t	hat cover at least 10 ft2. (d	ifferent patches	
of the same species can be combined to meet the sa	ize threshold)		1 1
V do not have to name the species			1
Do not include Eurasian Milfoil, reed canarys	rass, purple loosestrife, Ci	ınadian Thisile	
If you counted:	> 19 species	points = 2	i i
List species below if you want to:	5 - 19 species	points =	
	< 5 species	points = 0	
			1 1
			1 1
			1

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Wetland name or number



Comments

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Wetland	name	or	number	
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2. Does the wetland unit have the opportunity to p	rovide habitat for many species?	
		Figure
	er of wetland unit. The highest scoring	
terion that applies to the wetland is to be used in the ratin	g. See text for definition of	
#-tu-had "		
 100 m (330ft) of relatively undisturbed vegetated are 	eas, rocky areas, or open water >95%	1
- 6 - i-mumferance No structures are within the undi	sturbed part of butter. (relatively	
undisturbed also means no-grazing, no landscaping,	no daily human use) Points = 5	>
— 100 m (330 ft) of relatively undisturbed vegetated ar	eas, rocky areas, or open water >	1
50% circumference.	Points = 4]
= 50 m (170ft) of relatively undisturbed vegetated are	as, rocky areas, or open water >95%	
oircumference.	Points = 4	
— 100 m (330ft) of relatively undisturbed vegetated are	eas, rocky areas, or open water > 25%	l .
airoumference	Points = 3	
- 50 m (170ft) of relatively undisturbed vegetated are	as, rocky areas, or open water for >	
50% circumference.	Points = 3	
If buffer does not meet any of th	e criteria above	1
No paved areas (except paved trails) or buildings with	thin 25 m (80ft) of wetland > 95%	
oiscumference Light to moderate grazing, or lawns	are OK. Points = 2	
No paved areas or buildings within 50m of wetland in	for >50% circumference.	
Light to moderate grazing, or lawns are OK.	Points = 2	1
Heavy grazing in buffer.	Points = 1	1
Vegetated buffers are <2m wide (6.6ft) for more than	n 95% of the circumference (e.g. tilled	
fields, paving, basalt bedrock extend to edge of weth	and $Points = 0$.	
Buffer does not meet any of the criteria above.	Points = 1	
Aerial p	hoto showing buffers	
H 2.2 Corridors and Connections (see p. 81)		
Tracility the wetland part of a relatively undisturbed a	and unbroken vegetated corridor	1
(it as single or upland) that is at least 150 ft wide, h	as at least 30% cover of shrubs, forest	
	, other wetlands or undisturbed	1
unlands that are at least 250 acres in size? (dams in rif.	parian corridors, heavily used gravei	
rouds, payed roads, are considered breaks in the corri	dor).	ì
VES = 4 noints (go to H 2.3)	NO = go to H 2.2.2	1
H 2.2.2 Is the wetland part of a relatively undisturbed a	and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has	s at least 30% cover of shrubs or	
count and connects to estuaries, other wetlands or und	listurbed uplands that are at least 25	1
acres in size? OR a Lake-fringe wetland, if it does no	ot have an undisturbed corridor as in	
the question above?		I
YES = 2 points (go to H 2.3)	NO = H 2.2.3	1
H 2.2.3 Is the wetland:		
within 5 mi (8km) of a brackish or salt water es	tuary OR	
within 3 mi of a large field or pasture (>40 acre	es) OR	>
within 1 mi of a lake greater than 20 acres?		-
YES = 1 point	NO = 0 points	

Total for page 7

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the

connections do not have to be relatively undisturbed.

Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFWPHS report p. 152).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.

Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).

Wetland name or number _

Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a

Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft). composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this

list. Nearby wetlands are addressed in question H 2.4)

Wetland name or nu	mber
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10 H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other points = 3 development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5There are at least 3 other wetlands within ¼ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe points = 3 wetland within 1/2 mile There is at least 1 wetland within 1/2 mile. points = 2 There are no wetlands within 1/2 mile. points = 0 H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4 TOTAL for H 1 from page 14 Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on

Wetland name or number ____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	1
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	Cat. I
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant	Cat. II
species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Dual
rating (I/II). The area of Spartina would be rated a Category II while the	rating
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	1/11
— At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Ì
 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	

Wetland	name	or	number	
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Ì	SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	Cat. I
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NOnot a Heritage Wetland	
Ι.	SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	. <u> </u>
	1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2	
	2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
l	Yes - go to Q. 3 No - Is not a bog for purpose of rating	
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	1
	Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
	2. YES = Category I No Is not a bog for purpose of rating	Cat. I

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SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer ves you will still need to rate the wetland based on its functions. - Old-growth forests: (west of Cascade crest) Stands of at least two tree species. forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. - Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. Cat. I YES = Category I NO __not a forested wetland with special characteristics SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks. shingle, or, less frequently, rocks - The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon YES = Go to SC 5.1SC 5.1 Does the wetland meets all of the following three conditions? - The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). - At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. Cat. I - The wetland is larger than 1/10 acre (4350 square feet) Cat. II YES = Category I NO = Category II

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SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	J
YES - go to SC 6.1 NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	ľ
functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula- lands west of SR 103 	1
Grayland-Westport- lands west of SR 105	
Ocean Shores-Copalis- lands west of SR 115 and SR 109	ı
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is	
once acre or larger?	
YES = Category II NO - go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland, based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on	MA
If you answered NO for all types enter "Not Applicable" on p. i	<u> </u>

Wettand name of number		
WETLAND RATING FORM	1 - WESTERN WASHINGTON	Ī
Version 2 - Updated July 2006 to increase	accuracy and reproducibility among use	rs
	w WDFW definitions for priority habitats	
Name of wetland (if known): Wetler	Date of site	visit: 3/1
Name of wetland (it known).		
Rated by Train	ed by Ecology? Yes_No Da	te of training_
SEC:TWNSHP:RNGE: Is S/T/F	R in Appendix D? Yes No	_
Map of wetland unit: Figure _	Entimeted also //.	50555
Map of wettand unit: Figure _	Estimated size/	
SUMMARY	OF RATING	
Category based on FUNCTIONS provid	ed by wetland	
I II III IV		
I II II II		
	Score for Water Quality Functions	
Category I = Score >=70	, ,	12
Category II = Score 51-69	Score for Hydrologic Functions	12_
Category III = Score 30-50	Score for Habitat Functions	19
Category IV = Score < 30	TOTAL score for Functions	47
		<u> </u>
Category based on SPECIAL CHARAC	TERISTICS of wetland	
I II Does not Apply		
1 11 but in the interpretation		
Final Category (choose the "	highest" category from above)	1 5
Summary of basic informa	tion about the wetland unit	
Wetland Unit has Special Characteristics	welland fight Class	
Estuarine	Depressional	1.00
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	\neg
Mature Forest	Slope	
Old Growth Forest	Flats	_]
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple	
	HGM classes present	

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Vetland name or number	
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Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection Y (in addition to the protection recommended for its category)	ES NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?	
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name of	r number
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Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?

NO – go to 2

YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3 YES - The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 - At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit meet all of the following criteria?
 - The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than I foot deep).

NO - go to 5 YES - The wetland class is Slope

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etland	name	or	number	_
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- 5. Does the entire wetland unit meet all of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank
 - flooding from that stream or river

The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7 YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8 YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland name or number _____

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to	Points (only i store) (per box)	
s	improve water quality's S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)	
s	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 1% - 5% Slope is 2% - 5% Slope is greater than 5%	0	
s	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	3	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area Dense, uncut, herbaceous vegetation > 1/4 of area Dense, uncut, herbaceous vegetation > 1/4 of area Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure	
s	Total for S 1 Add the points in the boxes above	6	
S	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.		
	- Grazing in the wetland or within 150ft - Untreated stormwater discharges to wetland - Tilled fields, logging, or orchards within 150 feet of wetland - Residential, urban areas, or golf courses are within 150 ft upslope of wetland - Other		
s	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1		

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Comments

Wetland name or number ____

S	Slope Wetlands "HYDROLOGIC FUNCTIONS", Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only I sente per ben)	
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland.		
	Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	6	
s			
S	Add the points in the boxes above	! 6	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding problems	(see p. 70)	
ĺ	— Other	multiplier	
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier 12 NO multiplier is 1	7_	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	٦	

Comments

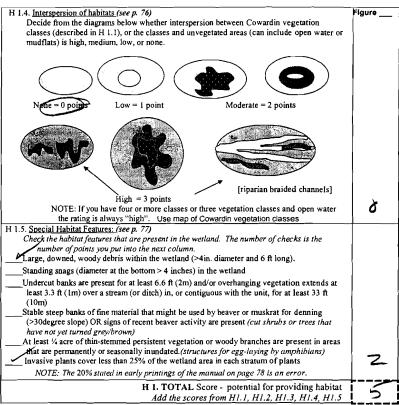
Wetland	name	or number	

These questions apply to wetlands of all H HABITAT PUNCTIONS. Indicators that unit fun	ctions to provide important	habitat:	Points (only liptore per blue)
H 1. Does the wetland unit have the potential to	provide habitat for many	species?	
11.1.1 Vecestion structure (see p. 72)			Figure
Check the types of vegetation classes present (as defi-	ned by Cowardin)- Size thresi	iold for each	
class is 4 acre or more than 10% of the area if un	it is smaller than 2.5 acres.		
Aquatic bed			
Emergent plants			
Scrub/shrub (areas where shrubs have >30	% cover)		
Forested (areas where trees have >30% co	ver)		
If the unit has a forested class check if:		1	1
The forested class has 3 out of 5 strata (ca	nopy, sub-canopy, snrubs, ne	rbaceous,	Į.
moss/ground-cover) that each cover 20	Within the forested polygo	1	
Add the number of vegetation structures that qualify.	4 structures or more	points = 4	1
	3 structures	points = 2	
Map of Cowardin vegetation classes	2 structures	points = 1	_
	1 structure	points = 0	0
Transport (con p. 73)	1 structure	points v	Figure
H 1.2. Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods)	present within the wetland	he water	_
regime has to cover more than 10% of the wetland	or % acre to count. (see text	for	
descriptions of hydroperiods)	0. 7. 20. 0 10 00 (520 142.)	,	
Permanently flooded or inundated	4 or more types present	points = 3	
Seasonally flooded or inundated	3 types present	points $= 2$	
Occasionally flooded or inundated	2 types present	point = 1	
Saturated only	l type present	points = 0	
Permanently flowing stream or river in, or a	diacent to, the wetland	•	1
Seasonally flowing stream in, or adjacent to	o, the wetland		
I.ake-fringe wetland = 2 points)
Freshwater tidal wetland = 2 points	Map of hydr	operiods	(
H 1.3. Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetland	that cover at least 10 ft ² . (dis	Terent natches	ì
of the same species can be combined to meet the	size threshold)	,	
You do not have to name the species.			
Do not include Eurasian Milfoil, reed canary	grass, purple loosestrife, Car	adian Thistle] '
If you counted:	> 19 species	points = 2	
List species below if you want to:	5 - 19 species	points = D	
List species neion y you	< 5 species	points = 0	
	•	-	
			1 x
			1

Total for page 3

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Wetland name or number



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H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
	Figure
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of huffer of wetland unit. The highest scoring	, .gu. v
Choose the description that best represents condition of variety of weithing and. The nignest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of	1 1
criterion that applies to the welland is to be used in the rating. See text for definition of	
"undisturbed." — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%])
of circumference. No structures are within the undisturbed part of buffer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
undisturbed also means no-grazing, no tandscaping, no daily numan use) 1 onto 3 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	1 1
	1
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	1
- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25%	
circumference, . Points = 3	1
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >	1
50% circumference. Points = 3	
If buffer does not meet any of the criteria above	1 1
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	-
circumference. Light to moderate grazing, or lawns are OK. Points = 2	! !
- No paved areas or buildings within 50m of wetland for >50% circumference.	1
Light to moderate grazing, or lawns are OK. Points = 2	1
— Heavy grazing in buffer. Points = 1	[
Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled	1
fields, paving, basalt bedrock extend to edge of wetland Points = 0.	
Buffer does not meet any of the criteria above. Points = 1	
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81)	
I up 2.2 I le the wetland part of a relatively undisturbed and unbroken vegetated corridor	1 1
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest	. [
or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel	
roads, paved roads, are considered breaks in the corridor).	
YES = 4 points $(go to H 2.3)$ NO = go to H 2.2.2	1
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	
forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25	l i
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in	
the question above?	1
Y(3 = 2 points) (go to H 2.3) NO = H 2.2.3	
H 2.2.3 Is the wettand:	
within 5 mi (8km) of a brackish or salt water estuary OR	1 _
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	2
YES = 1 point NO = 0 points	

Total for page 6

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Wetland name or number ____

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	}
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	\
Herhaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	l
old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	l
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.]
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	1
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
report p. 158).	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.]
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	ł
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	1
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,)
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of hubitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	ĺ
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	1
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	ľ
human.	1
	•
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	ļ
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	Ì
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	_
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	- P
list. Nearby wetlands are addressed in question H 2.4))

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H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other points = development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe points = 3wetland within 1/2 mile There is at least 1 wetland within 1/2 mile. points = 2 There are no wetlands within 1/2 mile. points = 0 H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4 TOTAL for H I from page 14 Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant	Cat. I Cat. II
species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least % of the landward edge of the wetland has a 100 ft buffer of	Dual rating
shrub, forest, or un-grazed or un-mowed grassland. The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	Cat. I
YES = Category I NOnot a Heritage Wetland	·
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes	
go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
1. Is the unit forested (> 30% cover) with sitka spruce subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	

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2. YES = Category I

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Cat. I

No___ Is not a bog for purpose of rating

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO not a forested wetland with special characteristics	Cat. I
	
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon	
 SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant 	

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species (see list of invasive species on p. 74).

shrub, forest, or un-grazed or un-mowed grassland.

— The wetland is larger than 1/10 acre (4350 square feet)

YES = Category I NO = Category II

- At least 34 of the landward edge of the wetland has a 100 ft buffer of

Wetland name or number _

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Cat. I

Cat. II

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NQ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula- lands west of SR 103	
Grayland-Westport- lands west of SR 105	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
YES = Category II NO - go to SC 6.2	Cat. 11
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	C21.11
YES = Category III	Cat. III
Category of wetland based on Special Characteristics Choose the "highest" roting if wetland falls into several categories, and record on p. 1.	NA
If you answered NO for all types enter "Not Applicable" on p.	

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WETLAND RAT	TING FORM – WESTERN WASHINGTON
Version 2 - Updated July 2	006 to increase accuracy and reproducibility among users
Updated Oct 20	08 with the new WDFW definitions for priority habitats
Name of wetland (if known):	Jetina J Date of site visit: 3/0
Name of wetland (if known)	<u>-</u>
Rated by 2	Date of site visit: 3/6 Trained by Ecology? Yes_No_ Date of training
SEC:TWNSHP:RNGE: _	Is S/T/R in Appendix D? Yes No
Map of wetland un	lit: Figure Estimated size (2009 5 +
SU	MMARY OF RATING
Category based on FUNCTIO	NS provided by wetland
I II IV	
I II III IV	_
	Score for Water Quality Functions 17
Category I = Score >= 70	
Category II = Score 51-69	Score for Hydrologic Functions
Category III = Score 30-50	Score for Habitat Functions 7
Category IV = Score < 30	TOTAL score for Functions
 _	
Category based on SPECIAL	CHARACTERISTICS of wetland
I II_ Does not A	
1 H Does not it	PP-V
	11
Final Category (choose the "highest" category from above)
G .	<u> </u>
Summary of b	asic information about the wetland unit scial Wetland HGM Class used for Rating
Wetland Unit has Spe	used for Rading
Characteristics	Depressional
Estuarine	Depressional
Natural Heritage We	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	Check if unit has multiple
MOHE OF THE ADDAC	HGM classes present

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Wetland name or number _____

Wetland	name	or	number	
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Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (invaddition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		レ
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		/
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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Wetland name or number					
Classification of Wetland Units in Western Washington					
If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.					
 Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)? NO - go to 2 YES - the wetland class is Tidal Fringe 					
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)					
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).					
2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. NO - go to 3 YES - The wetland class is Flats					
If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.					
3. Does the entire wetland unit meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)? NO -go to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe)					
4. Does the entire wetland unit meet all of the following criteria? The wetland is on a slope (slope can be very gradual), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep). NO - vo to 5 YES - The wetland class is Slope					

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	Wetland	name	oτ	number	
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- 5. Does the entire wetland unit meet all of the following criteria?
 - ____ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - The overbank flooding occurs at least once every two years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 YES - The wetland class is Riverine

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.

- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 - NO go to 8 YES The wetland class is Depressional
- 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated *	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

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Wetland	name	ог	number	
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D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the welland unit functions to 1.	Points (only 1 scores per box)
	Improve water quality D 1. Does the wetland unit have the potential to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland:	Figure
D	Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet coints: Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	گ
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	
D	definitions) YES NO Doints = 4 Points = 0	0
	D.1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)	Figure
n	Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3	
D	Westend has persistent ungrazed vegetation > = 1/10 of area points = 1	<u> </u>
	Wetland has persistent, ungrazed vegetation <1/10 of area Map of Cowardin vegetation classes	٦
	Di A Characteristics of seasonal ponding or inundation.	Figure
	This is the great of the wetland unit that is ponded for at least 2 months, but dries out	
D	sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.	
	Area seasonally ponded is > ½ total area of wetland points = 4	
	Area seasonally pended is > 1/2 total area of wetland points = 2	4
	Area seasonally ponded is < 1/2 total area of wetland points = 0 Map of Hydroperiods	(
D	Total for D 1 Add the points in the boxes above	Z
<u> </u>	D 2. Does the wetland unit have the opportunity to improve water quality?	(see p. 44)
D	A source VES if you know or believe there are pollutants in groundwater or surface water	
1	coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions	
	provide the sources of pollutants. A unit may have pollutants coming from several	ļ
	sources but any single source would qualify as opportunity.	
	— Grazing in the wetland or within 150 ft	
	- Untreated stormwater discharges to wetland - Tilled fields or orchards within 150 ft of wetland	l
1	A ctream or culvert discharges into wetland that drains developed areas, residential areas,	
	Assidential, urban areas, golf courses are within 150 ft of wetland	multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen	
	— Other	
1_	YES multiplier is 2 NO multiplier is 1 10-10 - Water Quality Functions Multiply the score from D1 by D2	<u> </u>
D	Add score to table on p. 1	

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Wetland name or number ____

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS: Indicators that the wetland unit functions to reduce flooding and stream degradation.	Points (only 1 score per box)
	D 3. Does the wetland unit have the potential to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch [If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	ے
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1	
	Marks of ponding less than 0.5 ft points = 0	<u></u>
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit Dinter of the basin is more than 100 times the area of the unit	0
1_	Entire unit is in the FLATS class points = 5 Total for D 3 Add the points in the boxes above	<u> </u>
D		
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems	(see p. 49)
	Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems	multiplier
	— Other NO multiplier is 1	2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	4

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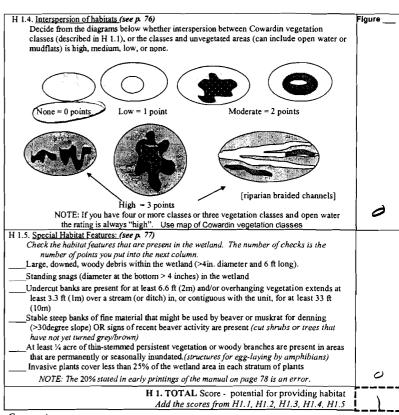
Wetland name or number	Wetland	name	or	number	
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These questions apply to wellands of all H HABITAT FUNCTIONS: Indicators that unit fun	GM classes. ctions to provide importan	# _{jecto} rhabitat	Points* (only 1 score per toxis
H 1. Does the wetland unit have the potential to	provide habitat for many	species?	-
H.I. Vegetation structure (see p. 72) Check the types of vegetation classes present (as deficass is % acre or more than 10% of the area if un Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30 Forested (areas where trees have >30% co lif the unit has a forested class check if: The forested class has 3 out of 5 strata (commons/ground-cover) that each cover 20	ined by Cowardin)- Size thres nit is smaller than 2.5 acres. 9% cover) ever) anopy, sub-canopy, shrubs, h	hold for euch	Figure
Add the number of vegetation structures that qualify.	If you have:		1
Map of Cowardin vegetation classes	4 structures or more 3 structures 2 structures 1 structure	points = 4 points = 2 points = 1 points = 0	0
H 1.2. Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods) regime hus to cover more than 10% of the wetland descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or Seasonally flowing stream in, or adjacent to	4 or more types preser 3 types present 2 types present 1 type present	of for at points = 3 points = 2	Figure
Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	Map of hyd	roperiods	}
H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary If you counted: List species below if you want to:	size threshold)		
			0

Total	for	page	
		F-0-	_

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Wetland	nome	or n.	ımher	



Comments

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Wetland	name	or	number	
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H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
	Figure
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference.	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for 50% circumference. 11 buffer does not meet any of the criteria above No payed areas (except payed trails) or buildings within 25 m (80ft) of wetland > 95%	
circumference. Light to moderate grazing, or lawns are OK. No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 Points = 2 Points = 1 Heavy grazing in buffer.	
- Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0. - Buffer does not meet any of the criteria above. Points = 1 Aerial photo showing buffers	2
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel routs, paved routs, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to H 2.3) H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	,
YES = 1 point NO = 0 points	<u>—</u> _

Total for page_3

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	1
the PHS report http://wdfw.wa.gov/hab/phslist.htm.)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	ì
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	1
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	Į
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	ļ
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	1
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	1
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
report p. 158).	ł
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	1
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	l
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	Ì
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	
Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	_
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	0
list. Nearby wetlands are addressed in question H 2.4)	_

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Weiland name or number _____

Wetland	name of	number	
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3 H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe points ≈ 5 wetlands within 1/2 mile wetlands within ½ mile
There are at least 3 other wetlands within ½ mile, BUT the connections between them are
points disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe points = 3 wetland within 1/2 mile There is at least 1 wetland within 1/2 mile. points = 2 There are no wetlands within 1/4 mile. points = 0 3 H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4 TOTAL for H 1 from page 14 Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on

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Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
The dominant water regime is tidal, Vegetated, and	
— With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category 1 NO go to SC 1.2	i
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II	Cat. I
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant	Cat. II
species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating
— At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	

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Wetland	name	or	number	

	Natural Program state Th SC 2. S/T/R YE	Natural Heritage Wetlands (see p. 87) Heritage wetlands have been identified by the Washington Natural Heritage n/DNR as either high quality undisturbed wetlands or wetlands that support ireatened, Endangered, or Sensitive plant species. 1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) information from Appendix D or accessed from WNHP/DNR web site	Cat. I
ŀ			
	Does the vegetate answer	Bogs (see p. 87) ne wetland unit (or any part of the unit) meet both the criteria for soils and ion in bogs? Use the key below to identify if the wetland is a bog. If you yes you will still need to rate the wetland based on its functions. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes go to Q. 3 No - go to Q. 2	
	3.	Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes - Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	I.	Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
	2.	YES = Category I No Is not a bog for purpose of rating	Cat. I

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Wetland name or number ____

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. - Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. - Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. Cat. I YES = Category I NO __not a forested wetland with special characteristics SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? - The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks - The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO___ not a wetland in a coastal lagoon YES = Go to SC 5.1SC 5.1 Does the wetland meets all of the following three conditions? - The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). - At least 1/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. Cat. I - The wetland is larger than 1/10 acre (4350 square feet) YES = Category 1 NO = Category 11 Cat. II

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Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also caffed the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula- lands west of SR 103 	
 Grayland-Westport- lands west of SR 105 	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
YES = Category II $NO - go \text{ to } SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	C41.11
YES = Category III	Cat. III
Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. 1. If you answered NO for all types enter "Not Applicable" on p. 1.	NA

Wetland name or number				
Version 2 - Updated July 20 Updated Oct 200	006 to increase at 08 with the new '	ccuracy and re WDFW definit	ions for priority habitats	T.S.
Name of wetland (if known):	wet	K	Date of site	visit:
Rated by				
SEC: TWNSHP:RNGE:				
Map of wetland un				
Map of wettand an	r .guu			
SU	MMARY	OF RAT	ING	
Category based on FUNCTION	NS provide	i by wetla	nd	
I II IV_				
1 11 11 11	<u> </u>			
	Sco	ore for Wate	r Quality Functions	10
Category I = Score >=70			drologic Functions	1/6
Category II = Score 51-69		-	-	7
Category III = Score 30-50		Score to	r Habitat Functions	
Category IV = Score < 30		TOTAL s	core for Functions	21
Category based on SPECIAL C		ERISTIC	S of wetland	
Final Category (c	hoose the "hi			4
~ ^1			e wetiand unit	_
Summary of ba	isic informati	on about th	HA HCM Class	Son
Summary of ba Wetland Unit has Spec	isic informati	on about th Wetla	nd HGM Class	
Wetland Unit has Spec Characteristics	ial	Wetla use	nd HGM Class d for Rating	
Wetland Unit has Spec Characteristics - Estuarine	ial	on about th Wetla use Depress Rivering	nd HGM Class d for Rating lonal	
Wetland Unit has Spec Characteristics Estuarine Natural Heritage Wetl	ial	Wetla use Depress	nd HGM Class d for Rating lonal	
Wetland Unit has Spec Characteristics Estuarine Natural Heritage Wetl Bog	ial	Wetla use Depress Riverine	nd HGM Class d for Rating lonal	
Wetland Unit has Spec Characteristics Estuarine Natural Heritage Wetl Bog Mature Forest	ial	Wetla use Depress Riverine Lake-fri	nd HGM Class d for Rating lonal	
Wetland Unit has Spec Characteristics Estuarine Natural Heritage Wetl Bog Mature Forest Old Growth Forest	ial	Wetla use Depress Riverine Lake-fri Slope Flats	nd HGM Class d for Rating lonal	
Wetland Unit has Spec Characteristics Estuarine Natural Heritage Wetl Bog Mature Forest	ial	Wetla use Depress Riverine Lake-fri Slope Flats	nd HGM Class d for Rating ional nge	

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Vetland	name	or numbe	-

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	l	
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Hentage Wetlands (see p. 19 of data form).		
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the welland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

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	Classification of Wetland Units in Western Washington If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.				
· makad					
	the water levels in the entire unit usually controlled by tides (i.e. except during floods)? YES - the wetland class is Tidal Fringe				
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)				
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).				
Gr	entire wetland unit is flat and precipitation is the only source (>90%) of water to it. nundwater and surface water runoff are NOT sources of water to the unit. YES - The wetland class is Flats				
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.				
	the entire wetland unit meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)? Role 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)				
	The wetland unit meet all of the following criteria? The wetland is on a slope (slope can be very gradual), The water flows through the wetland in one direction (unidirectional) and usually				

comes from seeps. It may flow subsurface, as sheetflow, or in a swale without

NOTE: Surface water does not pond in these type of wellands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually

The water leaves the wetland without being impounded?

Sft diameter and less than I foot deep).

YES - The wetland class is Slope

5. Does	entire wetland unit meet all of the following criteria?	
	The unit is in a valley, or stream channel, where it gets inundated by overbank	
	flooding from that stream or river	
	The overbank flooding occurs at least once every two years.	
	TE: The riverine unit can contain depressions that are filled with water when the river Llooding.	i
	YES - The wetland class is Riverine	
surfa: interi	tire wetland unit in a topographic depression in which water ponds, or is saturated to the at some time during the year. This means that any outlet, if present, is higher than the of the wetland go to 7 YES - The wetland class is Depressional	
	tire wetland unit located in a very flat area with no obvious depression and no overbank 3. The unit does not pond surface water more than a few inches. The unit seems to be	:

maintained by high groundwater in the area. The wetland may be ditched, but has no obvious

YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.

distinct banks.

Wetland name or number

natural outlet.

NO - go to 8

Wetland	name	or	number	
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D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS. Indicators that the wetland unit functions to improve water quality	Points (only 1 soors per box)
D	D1. Does the wetland unit have the potential to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and accomplishing and/or outlet is a man-made ditch	Figure
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide Photo or drawing	2
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES NO Oints = 0	
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation > = 95% of area Wetland has persistent, ungrazed, vegetation > = 1/2 of area Wetland has persistent, ungrazed vegetation > = 1/10 of area Wetland has persistent, ungrazed vegetation > = 1/10 of area	Figure
	Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	3
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Map of Hydroperfods	Figure
D	Total for D 1 Add the points in the boxes above	5
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen Other YES multiplier is 1	(see p. 44) multiplier
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	10

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D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 score per box)
	D 3. Does the wetland unit have the potential to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch (If ditch is not permanently flowing treat unit as "intermittently flowing")	*
D	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
	Marks of ponding are 3 ft or more above the surface or bottom of outlet The wetland is a "headwater" wetland" points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	
	Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1	
1	water points ≈ 1 Marks of ponding less than 0.5 ft points = 0	
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
	The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3	1 1
1 1	The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit points = 0	ا ے ا
	Entire unit is in the FLATS class points = 5	
D	Total for D3 Add the points in the boxes above	
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems	(see p. 49)
	 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other 	multiplier
	YES multiplier is 1 NO multiplier is 1	4
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	4

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Wetland	-ama	^-	anmher	
Wetland	name	OI	Hattion	_

1 Does the wetland unit have the potential to	provide habitat for many	species?	
1 1 Manutation etructure (see n. 72)			Figure _
Charlesha upper of vegetation classes present (as det	ined by Cowardin)- Size thres	hold for each	
class is 4 acre or more than 10% of the area if u	nit is smaller than 2.5 acres.		1
Aquatic bed			
Emergent plants			
Scrub/shrub (areas where shrubs have >30	0% cover)		
Forested (areas where trees have >30% co	over)		1
If the unit has a forested class check if:			
The forested class has 3 out of 5 strata (co	anopy, sub-canopy, shrubs, no	roaceous,	1
moss/ground-cover) that each cover 20	Within the forested polygo	11	I
Add the number of vegetation structures that qualify.	4 structures or more	points = 4]
	3 structures of more	points = 2	
Map of Cowardin vegetation classes	2 structures	points = 1	
	1 structure	points = 0	1
1.2. Hydroperiods (see p. 73)			Figure _
Chart the pines of water regimes (hydroperiods)	present within the wetland.	he water	
regime has to cover more than 10% of the wetland	d or 1/4 acre to count. (see text	for	ł
descriptions of hydroperiods)			ì
Permanently flooded or inundated	4 or more types presen		
Seasonally flooded or inundated	3 types present		
Occasionally flooded or inundated	2 types present	point = 1	1
Saturated only	l type present	points = 0	ľ
Permanently flowing stream or river in, or	adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to	o, the wetland		
Lake-fringe wetland = 2 points			10
Luxe-yringe recomming in Film			
Freshwater tidal wetland = 2 points	Map of hyd		
Freshwater tidal wetland = 2 points			1
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland	that cover at least 10 ft ² . (dif		
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the	that cover at least 10 ft ² . (dif		
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species.	that cover at least 10 ft ² . (digital size threshold)	Terent patches	
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary	that cover at least 10 ft ² . (difter size threshold) 1. Size threshold of the size threshold of the size threshold.	Jerent patches	
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary. If you counted:	that cover at least 10 ft ² . (dipsize threshold) ograss, purple loosestrife, Ca. > 19 species	Jerent patches nadian Thistle points = 2	
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary	that cover at least 10 ft ² . (dipsize threshold) ograss, purple loosestrife, Ca. > 19 species 5 - 19 species	Terent patches madian Thistle points = 2 points = 1	
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary If you counted:	that cover at least 10 ft ² . (dipsize threshold) ograss, purple loosestrife, Ca. > 19 species	Jerent patches nadian Thistle points = 2	
Freshwater tidal wetland = 2 points 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canary If you counted:	that cover at least 10 ft ² . (dipsize threshold) ograss, purple loosestrife, Ca. > 19 species 5 - 19 species	Terent patches madian Thistle points = 2 points = 1	
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Total for page	0
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Wetland name or number _____

H 1.4. Interspersion of habitats (see p. 76)	Figure
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or	1
mudflats) is high, medium, low, or none.	1
	ł
	1
Madausta m A mainte	
None = 0 points Low = 1 point Moderate = 2 points	1
	1
	l
	}
[riparian braided channels]	l
High = 3 points	٠.
NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	
H 1.5. Special Habitat Features; (see p. 77)	-
Check the habitat features that are present in the wetland. The number of checks is the	l
number of points you put into the next column.	1
Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
Standing snags (diameter at the bottom > 4 inches) in the wetland	1
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at	
least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft	1
(10m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that	
have not yet turned grey/brown)	
At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in each stratum of plants	\sim
NOTE: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat	
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	[

Comments

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Wetland	aame	or	number	

H 2. Does the wetland unit have the opportunity to provide habitat for m	any species?	
TVO 1 D. Sono (rea p. 80)		Figure
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The criterion that applies to the wetland is to be used in the rating. See text for definition ""	n oj	-
"undisturbed." 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open of circumference. No structures are within the undisturbed part of buffer. undisturbed also means no-grazing, no landscaping, no daily human use) 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open 50% circumference. 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open circumference. 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open circumference, 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open 50% circumference. If buffer does not meet any of the criteria above	(relatively Points = 5 m water > Points = 4 water >95% Points = 4 n water > 25% Points = 3 water fees Points = 3	
- No paved areas (except paved trails) or buildings within 25 m (80ft) of wetl	and > 95% Points = 2	
circumference. Light to moderate grazing, or lawns are OK. No paved areas or buildings within 50m of wetland for >50% circumference		
Light to moderate grazing, or lawns are OK.	Points = 2	ĺ
Heavy grazing in buffer.	Points = 1	
— Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumfered	ence (e.g. tilled	1 '
fields, paying, basalt bedrock extend to edge of wetland	Points = 0.	l —
 Buffer does not meet any of the criteria above. 	Points = 1	ا کــا
Aerial photo showing buffers		
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of or native undisturbed prairie, that connects to estuaries, other wetlands or undi uplands that are at least 250 acres in size? (dams in riparian corridors, heavily roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) H 2.2.2 Is the avetland part of a relatively undisturbed and unbroken vegetated (either riparian or upland) that is at least 50ft wide, has at least 30% cover of a forest, and connects to estuaries, other wetlands or undisturbed uplands that are acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed of the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR	sturbed sturbe	
within 5 mi of a large field or pasture (>40 acres) OR		1
within it mi of a lake greater than 20 acres? VES = 1 points NO = 0 points		· '
Lia I politic		4

Total for page 4

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W	etland	name	or	number	

H 2.3 Near or adjacent to other priority habitats jisted by WIFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa gowhab/pistis.htm.) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the connections do not have to be relatively undisturbed. Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre). Blodlversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions it WDFW PHS report p. 152). Herbaceous Balds: Variable size patches of grass and iforbs on shallow soils over bedrock. Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%, decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158). Riparlan: The area adjacent to aquatic systems with flowing water that contains-elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habit		
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· · ·	height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 in (20 ft)	
	long.	
If wetland has 3 or more priority habitats = 4 points		
If wetland has 2 priority habitats = 3 points		
If wetland has 1 priority habitat = 1 point No habitats = 0 points		
Note: All vegetated wetlands are by definition a priority habitat but are not included in this		_
list. Nearby wetlands are addressed in question H 2:4)	list. Nearby wetlands are addressed in question H 2:4)	L I

Wetland Rating Form - western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008

Wetland	name	or	number	
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4

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ¼ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile.	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAIL for H 1 from page 14	0
Total Score for Habitat Functions - add the points for H1, H2 and record the result on p. 1	

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands?	
- The dominant water regime is tidal, - Vegetated, and - With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

Wetland	name	٥r	number	
wenana	manic	U1	HULLIVOI	

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	Cat. I
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NOnot a Heritage Wetland	
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes go to Q. 3	
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to O. 3 No. Is not a bog for purpose of raung	
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
2. YES = Category I No Is not a bog for purpose of rating	Cat. I

r	
SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category I NOnot a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon	
 SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). 	
At least 4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet)	Cat. I
YES = Category I NO = Category II	Cat. II

Wetland name or number _____

		1
SC 6.0 Interdunal Wetlands (see p. 93)]
Is the wetland unit west of the 1889 line (al.	so called the Western Boundary of Upland	
Ownership or WBUO)?		
YES - go to SC 6.1	Onot an interdunal wetland for rating	l
	eed to rate the wetland based on its	
functions.	•	ļ
In practical terms that means the following	geographic areas:	i
Long Beach Peninsula- lands west of	f SR 103	}
Grayland-Westport- lands west of S.	R 105	
Ocean Shores-Copalis- lands west of SR 115 and SR 109		
SC 6.1 Is the wetland one acre or larger	, or is it in a mosaic of wetlands that is	l
once acre or larger?		
YES = Category II	NO – go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 ac	ere, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?		
YES = Category III		Cat. III
Category of wetland based on Special C	haracteristics	
Choose the "highest" rating if welland fal	ls into several categories, and record on	MA
		101
If you answered NO for all types enter 'No	ot Applicable" on p.1	

Version 2 - Updated Ju Updated O	ily 2006 to increase at 2008 with the ne	M – WESTERN W. e accuracy and reproduc w WDFW definitions fo	ibility among users r priority habitats	ı
Name of wetland (if known):	heet.	<u></u>	_Date of site v	isit:
Rated by				
SEC: TWNSHP: RNGH	E: Is S/T/	R in Appendix D?	(es No	
Map of wetland	unit: Figure	Estimated	size <u>4, /</u>	DUSF
	SUMMAR	Y OF RATING	7	
Category based on FUNCT	YONS provi	led by wetland		
I_ II_ III_	IV			
·_ ·				
	1	Score for Water Qua	lity Functions	18
Category I = Score >= 70	1	Sagra for Hudrola	aia Eunations	10
Category II = Score 51-69 Score for Flydrologic Patientons				- 7 -
Category III = Score 30-50 Score for Habitat Functions 12				
Category IV = Score < 30 TOTAL score for Functions 34				
		,		
Category based on SPECIA	L CHARA	TERISTICS of	wetland	
I II_ Does no				
Final Categor	y (choose the	'highest" category		3
Summary	f basic inform	ation about the wet	land unit	_
Wetland Unit has	Special	Wetland H used for	GM Class	
		used for	Rating	<u> </u>
Estuarine		Depressional		7
Natural Heritage	Wetland	Riverine		
Bog		Lake-fringe		\dashv
Mature Forest		Slope		4
Old Growth Fores		Flats		-
Coastal Lagoon		Freshwater T	idai	
Interdunal		 		⊣
None of the above		Check if unit l		1
i		HGM classes	present	1

August 2004

Wetland Rating Form - western Washington version 2 To be used with Ecology Publication 04-06-025

Wetland name or number _

Wetland name or number

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		/
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		/

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland	name	ог	number	

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in	the entire unit usually controlled by tides (i.e. except during floods)
NO = on to 2	YES - the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

VES - The wetland class is Flats NO - go to B

T your wetland can be classified as a "Flats" wetland, use the form for Depressional

- 3. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

YES - The wetland class is Lake-fringe (Lacustrine Fringe) NO - 201

- Does the entire wetland unit meet all of the following criteria?
 - The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually ₹3fAdiameter and less than I foot deep).

Y E2 -	Ine	welland	CIRSS	13	Piobe	

Dage	tha	antica	westland.

Wetland name or number

- 5. Does the entire wetland unit meet all of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - The overbank flooding occurs at least once every two years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

YES - The wetland class is Riverine NO - go to 6.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetlered.

NO - go to 7 YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8 YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a nverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland	name	or num	ber
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D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
D	D 1. Does the wetland unit have the potential to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 3 Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	
D	definitions) YES NO points = 4 points = ID	6
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation > = 95% of area Wetland has persistent, ungrazed, vegetation > = 1/2 of area Wetland has persistent, ungrazed vegetation > = 1/10 of area Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	Figure
D	Map of Cowardin vegetation classes D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.	Figure
	Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Map of Hydroperiods	2
D	Total for D 1 Add the points in the boxes above	9
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen Other VES multiplier is NO multiplier is 1	(see p. 44) multiplier
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	18

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Wetland name or number _____

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 socre per box)
	D 3. Does the wetland unit have the potential to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet Unit is a "flat" depression (0.7 on key), or in the Flats class, with permanent surface outlflow and no obvious natural outlet and/or outlet is a man-made ditch [If ditch is not permanently flowing treat unit as "intermittently flowing"] Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	2
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7. The wetland is a "headwater" wetland" points = 5. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3. Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap	
	water points = 1 Marks of ponding less than 0.5 ft	a
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is not enter than 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class	0
$ _{\mathbf{D}} $	Total for D3 Add the points in the boxes above	
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems	(see p. 49)
	 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 	multiplier
	— Other YES mytiplier is NO multiplier is 1	2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	4

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Weiland	name	or number	

1. Does the wetland unit have the potential to	provide habitat for man	y species?	
1 1 11 - etch on etmiching (see p. 72)			Figure _
at the times of vegetation classes present (as de)	fined by Cowardin)-Size thres	hold for each	
class is 1/2 acre or more than 10% of the area if u	nit is smaller than 2.5 acres.		
Aquatic bed			
Emergent plants			
Scrub/shrub (areas where shrubs have >3	0% coveт)		1
Forested (areas where trees have >30% c	over)		
If the unit has a forested class check if:			
The forested class has 3 out of 5 strata (c	anopy, sub-canopy, shrubs, h	erbaceous,	
moss/ground-cover) that each cover 2	0% within the forested polygo	on	i
Add the number of vegetation structures that qualify	. If you have:	malmer - 4	
	4 structures or more	points = 4	Í
Map of Cowardin vegetation classes	3 structures	points = 2	l
	2 structures	points = 1	
	1 structure	points = 0	Figure
1.2. Hydroperiods (see p. 73)		7'h et	rigure
Check the types of water regimes (hydroperiods	present within the welland.	ine water	1
regime has to cover more than 10% of the wetlan	a or 1/4 acre to count, (see text	jor	
descriptions of hydroperiods)	4 or more types presen	t points = 3	
Permanently flooded or inundated	4 or more types present		1
Casonally flooded or inundated	2 types present		ì
Occasionally flooded or inundated	1 type present	points = 0	
Saturated only Permanently flowing stream or river in, or		ponits – 0	
Seasonally flowing stream in, or adjacent	to the wetlend		1
Seasonally Howing stream in, or adjacem	io, the welland		1 1
Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	Map of hyd	ropetiods	(
1.3. Richness of Plant Species (see p. 75)	1.1	or	ļ
Count the number of plant species in the wetland	d that cover at least 10 it. (di)	jerent patches	
of the same species can be combined to meet the	e size threshold)		
You do not have to name the species.			
Do not include Eurasian Milfoil, reed canar	ygrass, purple loosestrife, Ca	naaian Thistle	1
If you counted:	> 19 species	points = 2	
List species below if you want to:	5 - 19 species	points = 1	1
	< 5 species	points = 0	
			1
			1
			1 1
			ľ

			7
Total	for	page	_

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Wetland name or number _____

H 1.4. Interspersion of habitats (see p. 76)	Figure
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
	1
None = 0 points Low = 1 point Moderate = 2 points	
[riparian braided channels]	
NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
Standing snags (diameter at the bottom > 4 inches) in the wetland	ŀ
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants	<u>ت</u>
NOTE: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

Comments

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Wetland r	name or	number	
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H 2. Does the wetland unit have the opportunity to provide habitat	or many species?	
II 2 1 Duffers (see n 80)		Figure
Channels description that hest represents condition of buffer of wetland unit.	The highest scoring	1
criterion that applies to the wetland is to be used in the rating. See text for defi	nition of	1
"di eternhad "		ì
100 m (230ft) of relatively undisturbed vegetated areas, rocky areas, 0	open water >95%	
of occumference. No structures are within the undisturbed part of but	fer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human us	e) Points = 5	
_ 100 m (330 lt) of relatively undisturbed vegetated areas, rocky areas, o	r open water >	
50% circumference.	Points = 4	ı
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	open water >95%	
circum ference.	Points = 4	1
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	open water > 25%	1
circumference,	Points = 3	
 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or 	open water for >	ĺ
50% circumference.	Points = 3	
If buffer does not meet any of the criteria above	'accetland > O60/	
- No paved areas (except paved trails) or buildings within 25 m (80ft) of	Points = 2	
circumference. Light to moderate grazing, or lawns are OK.		
— No paved areas or buildings within 50m of wetland for >50% circumfe	Points = 2	
Light to moderate grazing, or lawns are OK.	Points = 1	
— Heavy grazing in buffer.		
— Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circu	Points = 0.	
fields, paving, basalt bedrock extend to edge of wetland	Points = 0.	2
Buffer does not meet any of the criteria above. Aerial photo showing buffer.		
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vege	tated corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30% co	er of shrubs, forest	
or native undisturbed prairie, that connects to estuaries, other wetlands or	undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, h	eavily used gravel	
roads, paved roads, are considered breaks in the corridor).	, ,	
$VES = 4 \text{ points} (go to H 2.3) \qquad NO = go to H$	2.2.2	
u 2 2 2 is the wetland part of a relatively undisturbed and unbroken vege	tated corridor	
(aither riperian or unland) that is at least 50ft wide, has at least 30% cover	of shrubs or	
forget, and connects to estuaries, other wetlands or undisturbed uplands the	at are at least 25	
acres in size? OR a Lake-fringe wetland, if it does not have an undistur	ed corridor as in	
the question above?		
Y = 2 points (go to H 2.3) NO = H 2.2.3		
H 2.2.3 Is the wetland:		
within 5 mi (8km) of a brackish or salt water estuary OR		ľ
within B mi of a large field or pasture (>40 acres) OR		<u> </u>
within mi of a lake greater than 20 acres? YES = 1 point NO = 0 points		-
YES = 1 point NO = 0 points		

Total for page 4

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H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	1
connections do not have to be relatively undisturbed.	i
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	1
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	1
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	1
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	1
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	ì
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	ļ
west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	[
report p. 158).	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	1
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	1
that interact to provide functional life history requirements for instream fish and wildlife	
resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. Ifull descriptions of habitars and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	Ì
Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a	
human.	i l
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	[
decay characteristics to enable cavity excavation/uselby wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 21m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 in (20 ft)	l
long.	!
If wetland has 3 or more priority habitats = 4 points	ĺ
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	3
list. Nearby wetlands are addressed in question H 2:4))
non read by memanias are additioned in question in 2.27	

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Wetland name or number ___

Wetland name or number _____

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, Ifill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within 1/2 mile There is at least 1 wetland within 1/2 mile. There are no wetlands within 1/2 mile. There are no wetlands within 1/2 mile.	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	10
TOTAL for H 1 from page 14	-2
Total Score for Habitat Functions - add the points for H 1, H 2 and record the result on p. 1	12

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	1
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	1
Does the wetland unit meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	}
— Vegetated, and	
— With a salinity greater than 0.5 ppt.	ĺ
YES = Go to SC 1.1 NO	į
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the	
following three conditions? YES = Category I NO = Category II	Cat. I
— The wetland is relatively undisturbed (has no diking, ditching, filling,	Cat. II
cultivation, grazing, and has less than 10% cover of non-native plant	
species. If the non-native Spartina spp. are the only species that cover	
more than 10% of the wetland, then the wetland should be given a dual rating (VII). The area of Spartina would be rated a Category II while the	Dual
relatively undisturbed upper marsh with native species would be a	rating
Category I. Do not, however, exclude the area of Spartina in	1/11
determining the size threshold of 1 acre.	
- At least % of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed grassland.	
— The wetland has at least 2 of the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

Wetland	nome	CT.	number	

ı	SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO not a Heritage Wetland	Cat. I
	SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes -	
	go to Q. 3 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating	
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that	
	seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
	2. YES = Category I No Is not a bog for purpose of rating	Cat. I

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	Cat. I
YES = Category I NO not a forested wetland with special characteristics	Cat. 1
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon	
 SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least % of the landward edge of the wetland has a 100 ft buffer of 	G. J.
shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet)	Cat. I
YES = Category I NO = Category II	Cat. II

YES = Category I NO = Category II

Wetland name or number ____

Wetland name or number ______

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NOnot an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	ļ
Long Beach Peninsula- lands west of SR 103	
Grayland-Westport- lands west of SR 105	
Ocean Shores-Copalis- lands west of SR 115 and SR 109	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is	
once acre or larger?	
YES = Category II NO – go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Can. 11
between 0.1 and 1 acre?	
YES = Category III	Cat. III
	Cat. III
Category of wetland based on Special Characteristics.	1 4/4
Choose the "highest" rating if well and falls into several categories, and record on	104
p:1.	ľ , ,
If you answered NO for all types enter "Not Applicable" on p.1	